



CITY OF GRAND RAPIDS

Vital Streets

PLAN



December 2016

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Dear Mayor and City Commissioners,

On behalf of the Vital Streets Oversight Commission I am pleased to submit to you the proposed Vital Streets Plan.

The Vital Streets Oversight Commission is charged with advising and assisting City staff to wisely invest our Vital Streets resources to achieve the envisioned complete streets outcome of safe, accessible, attractive, and multimodal streets that serve all people and improve the livability and economic prosperity of our great city.

We take this charge seriously and we have worked hard over the past year to develop this Plan and accompanying design guidelines through broad input and collaboration with many stakeholders. We believe it will be a valuable tool in helping our city make informed, asset management-based decisions about our streets and sidewalks. It provides a cohesive network approach with clear objectives and measurable outcomes.

In addition to our 25-member Commission, scores of individuals participated in working groups and other meetings contributing their time, expertise, and diverse perspectives. These partners included residents, residents, local businesses, freight haulers, education and health care institutions, stormwater and green infrastructure specialists, state and regional partners, safety and mobility advocates, and many more. They represented the needs of people of all ages, abilities, and economic statuses to ensure this plan and its resulting outcomes are prudent, holistic, and inclusive.

Grand Rapids is setting the bar high. This plan is ambitious, but achievable and necessary. It will improve the safety of our streets, the connectivity of our networks, and the predictability of street design. It is an important cornerstone in achieving and maintaining the vision of a great Grand Rapids that we all hold.

On behalf of my fellow Vital Streets Oversight Commissioners, I thank you for the opportunity to serve our city and advance this important work.

Sincerely,



Tammy Helminski

Vital Streets Oversight Commission Chair, 2016

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OVERVIEW

Quality streets and effective transportation networks are critical to the health, safety, enjoyment, and economic strength of the Grand Rapids community and the preservation of the Grand River watershed.

Grand Rapids has defined Vital Streets as “complete streets with green infrastructure.” In 2014, city voters approved Vital Streets funding and made a bold commitment to improving the quality of city streets and providing equitable access and mobility for all people.

The Vital Streets Oversight Commission (VSOC) was established to oversee the investment of these resources and implement the Vital Streets vision. In addition to approving the Capital Improvement Plan, the VSOC is charged with monitoring progress, reporting on achievements and outcomes, and recommending necessary course corrections.

Street design is complex, involving and affecting many stakeholders and disciplines. While the VSOC provides strategic vision and direction, and evaluates outcomes, the City’s “Design Team” oversees project design and decision making. The interdisciplinary Design Team provides holistic project review and is comprised of representatives from multiple City departments including water, public services, mobility and parking, economic development, environmental services, fire, and planning. Other departments and/or agencies may join as project demands require.

Urban street space in Grand Rapids is limited and the needs of pedestrians, bicycles, transit, personal vehicles, and commercial vehicles often compete with one another. The intention of the Vital Streets Plan is to promote consistency and provide a framework, much like a soundboard, to use best practices in project-based decision-making. By establishing this Plan, the City aspires to ensure that Vital Streets projects serve the City’s overall vision and deliver a complete and viable network that sustains Grand Rapids over time.

OBJECTIVES

- » Provide a reasonable and predictable set of processes and outcomes while minimizing conflict
- » Increase coordination and planning with stakeholders to reduce “re-work” (measure twice, cut once)
- » Provide consistent guidelines for facility and element design and operational strategies
- » Incorporate life-cycle thinking into the design and development process (considering street design choices and maintenance implications)
- » Provide sound and defensible methods for project definition and prioritization
- » Define measures for evaluation that are simple, consistent, and meaningful
- » Improve the understanding and knowledge of the street design process among the public, community leaders, transportation agencies, and other organizations.

COMPONENTS

This framework:

- » Establishes a **street typology** that unites street design with local land use context and community objectives;
- » Defines an integrated, **multimodal network** that provides quality mobility choices for pedestrians, bicyclists, transit services, motorists, and the movement of freight;
- » Provides current and state-of-the-practice **guidance** and considerations for the use and design of numerous potential street elements and components;
- » Presents a clear **methodology** for street design decision-making to balance competing uses and improve the consistency and transparency of decisions; and
- » Provides a structure for **performance measurement** and evaluation of outcomes so that the city may continually learn, adapt, and improve.


INTENDED USERS

This Plan is intended for a number of different audiences who have a stake in the critical decisions made in the street design process.

The Vital Streets Plan, including street types and mode emphasis overlays, is expected to be of interest to all street stakeholders including community members, business interests, general travelers, elected leadership, funders, and city staff.

The Vital Streets Design Guidelines may be of general interest to many and thus are accessible to all. However, the guidelines are specifically produced for street design professionals to use for their technical project design and development.

Measures of success for Vital Streets are a topic of broad interest and detailed in this Plan. The Vital Streets Design Guidelines include detailed performance measures specifically intended to aid City staff in assembling the information necessary for review by the Vital Streets Oversight Commission, so that it may effectively assess progress toward desired outcomes.



The Vital Streets Plan is intended as a companion to the Master Plan of the city. A thorough review and update of the plan should be done in concert with major updates to the Master Plan.

CONSISTENCY WITH ADOPTED STANDARDS AND POLICIES

The Vital Streets Plan is consistent with and complements adopted national guidance represented in both the *National Association of City Transportation Officials (NACTO) Urban Street Design Guidelines* and the *American Association of State and Highway Transportation Officials (AASHTO) Policy on Street Design*. Additionally, guidance is in conformity with the standards of the *Michigan Manual of Uniform Traffic Control Devices (MMUTCD)*.

The Vital Streets Plan is an update to the City's *1996 Street Classification Policy*. The Vital Streets Plan, however, shall supersede conflicting guidance in the former *Street Classification Policy*. Conventional street types of the *Street Classification Policy* will continue to be used to provide the consistency necessary in interactions with the Michigan Department of Transportation.

The Vital Streets Plan is a complement to the Grand Rapids *Standard Construction Specifications* (also known as the "Red Book"). In cases of conflict in guidance, the Vital Streets Design Guidelines augment and supersede the guidance and standards provided in the Red Book.

UPDATES, AMENDMENTS, AND MODIFICATIONS

The Vital Streets Plan works in concert with other key adopted city policies and plans including the City of Grand Rapids Master Plan, Green Grand Rapids, Green Infrastructure Standards, and GR Forward. The Vital Streets Plan incorporates established or planned bicycle, transit and truck route networks of the city and region.

However, the Plan is intended to serve as a living framework. The City will revise Street designations and modal networks over time as the city and technology continues to evolve. The City will also modify its street design controls and guidelines as street design advances and innovates. Performance measures will be revised and amended to best capture and evaluate the outcome of Vital Streets investments.

The VSOC will review any changes to street type or modal emphasis overlays, after consultation with City staff and stakeholders. Such changes will be transmitted to the City Commission for formal modification of the Vital Streets Plan. Additions, deletions, or other changes to the design guidelines will be done administratively through the Design Team.

The Vital Streets Plan is intended as a companion to the City Master Plan. A thorough review and update of this Plan, if necessary, should be done in concert with major updates to the Master Plan.





VISION, VALUES, AND PRINCIPLES

BACKGROUND

The economic downturn of the mid 2000s severely reduced public resources, including the ability to invest adequately in the maintenance and repair of city streets. Simultaneously, the City of Grand Rapids and the whole of the Grand Valley metropolitan region continued to grow, increasing demands for travel on the relatively narrow rights of way of city streets and increasing tension between the buses, bicyclists, private and commercial vehicles, and pedestrians forced to compete for safe accommodation in this limited space.

In 2012, the City Commission established the Sustainable Streets Task Force to assess the level of need and identify resources to restore the city's road infrastructure. Although 60% of city streets were in good and fair condition in 2002, fewer than 40% were in fair condition in 2012 and 87% were predicted to be in poor condition by 2019 without critical new investment.

In May 2014, Grand Rapids voters approved a Vital Streets dedicated funding measure, providing essential resources needed to repair, rehabilitate, and reconstruct city streets. It was promised that streets would be sustainably maintained over the long term, provide safety and accessibility for all people, and incorporate green infrastructure to protect water quality.

In 2015, the Vital Streets Oversight Commission (VSOC) was convened with the responsibility to oversee new tax revenue investment, ensuring funds serve the original purpose and monitoring results. The VSOC sought expert assistance to

develop the strategy and provide the tools needed for efficient, consistent, and transparent Vital Streets implementation. The Commission formed five working groups, each focused on a different aspect of Vital Streets—pedestrians, bicycles, transit and freight, parking and transportation demand management, and green infrastructure in coordination with the Stormwater Oversight Commission. This Vital Streets Plan is the product of over a year of discussions by the Commission and working group members who represented a diverse group of citizens, businesses, civic organizations, and advocates who contributed their unique perspectives to ensure a viable strategy.

A NEW APPROACH

Under the guidance of the VSOC, Grand Rapids is revolutionizing its approach to street design. The city recognizes that roads aren't just for moving vehicular traffic. Rather, streets are complex environments that must serve varied modes and users that intermingle.

In 1996, the City adopted its *Street Classification Policy*. This policy established the hierarchy of streets and approach to street design in general practice today. The City, with the help of its residents, has recognized the limitations of this current policy and the need to introduce more sensitivity to street context and greater accommodation of non-auto users. This Plan updates the *Street Classification Policy* to incorporate street design focusing on multi-modal transportation that recognizes that the city will continue to evolve.

THE VISION FOR VITAL STREETS

The network of city streets and rights-of-way **will be accessible, attractive, multimodal and safe; serving all people** of our community, **contributing to the livability** of our neighborhoods and business districts, protecting the quality of our river, and **increasing economic opportunity** for individuals, businesses, and new development.

Infrastructure assets will be **maintained and well-managed**, using a multi-faceted funding and educational strategy and innovative approaches to preserve our investment.

PRINCIPLES

Streets reflect the fundamental values of a community. In Grand Rapids, Vital Streets shall:

- » Be **safe and accessible** for all members of the community.
- » Be soundly designed and well maintained for **lasting investment**.
- » Be developed in **partnership** among city agencies, communities, and other stakeholders.
- » Promote **equitable access** to the amenities of the city
- » Expand travel options to **increase mobility** and improve public health.
- » **Strengthen community** by promoting human interaction and reflecting local character.
- » Protect and enhance the **environment**.
- » **Embrace innovation** and support continuous learning through measurement and evaluation.

VALUES

The Vital Streets investments should advance the ambitious goals and targets established by the City of Grand Rapids. Specifically:

- » **Mode Share:** Reduce single-occupant vehicle travel from a 95% drive-alone commute rate to 45% by 2035 by providing efficient transit corridors, safe walking and bicycle facilities, and smart solutions for ride-sharing to achieve a mode split of 20% transit, 12% walking, 5% biking, and 20% ridesharing.
- » **Equity:** Ensure transportation options are available, affordable, and reliable for all people to meet their travel needs regardless of age, ability, race, ethnicity, or economic status.
- » **Vision Zero:** Eliminate all traffic related serious injuries and fatalities on Grand Rapids city streets.
- » **Health:** Promote and enable walking, bicycling and other forms of active transportation. Vital Streets should, over time, contribute to reductions in childhood and adult obesity and improve public health outcomes.
- » **Age-Friendly Community:** Serve and accommodate people through their many phases of life, from an infant to student to active adult to aging senior.
- » **Climate Change:** Reduce transportation related emissions by reducing Vehicle Miles Travelled (VMT) through the increased use of transit, shared vehicles, and non-motorized transportation.

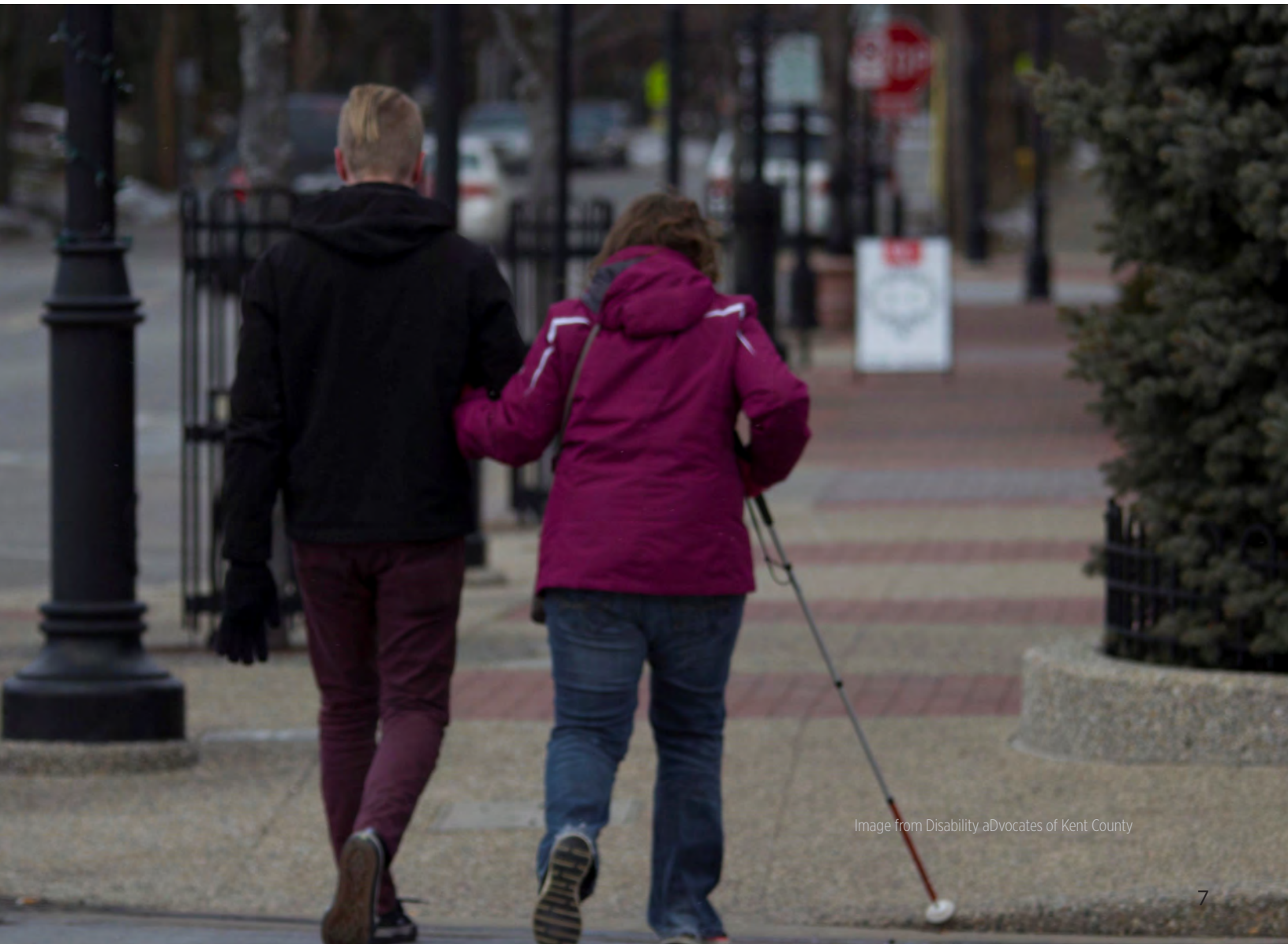


Image from Disability aDvocates of Kent County



MEASURES OF SUCCESS

City staff will collect and analyze metrics as they relate to measures of project success. In addition, the VSOC will then be charged with monitoring the results of Vital Streets investments. The VSOC shall use the following performance measures to monitor the overall health and performance of the street system and check that investments are making progress toward the Vital Streets goals. In addition, the street types established in this framework each have objectives and desired outcomes. Vital streets projects will also be evaluated on project-based metrics to ensure a continuous cycle of performance monitoring.

- » **TRAFFIC-RELATED SERIOUS INJURIES + FATALITIES** It is the intent and desire of the Vital Streets program to provide safe street design and maintain the quality of infrastructure to eliminate serious injuries and fatalities on city streets (Vision Zero).
 - 3-year running average crashes involving pedestrians
 - 3-year running average crashes involving bicyclists
 - 3-year running average traffic-related serious injuries and fatalities
- » **OPERATIONS AND MAINTENANCE** Streets reconstructed with Vital Streets resources will remain in a state of good repair with only standard preventive maintenance. Asset conditions are measured by street conditions and pavement quality.
 - Condition rating for Vital Street sidewalk projects
 - PASER rating for Vital Street projects (heavy rehabilitation or reconstruction)
 - PASER rating for all streets (percent good and fair streets)
- » **NETWORK CONNECTIVITY** Vital Streets will improve the functionality of the larger city and regional network for all modes of travel to provide increased access for all persons.
 - Percent of gaps in connectivity filled for pedestrians
 - Percent of dwelling units within 1/2 mile of a dedicated bicycle facility
 - Centerline miles of connected and accessible designated routes or facilities for pedestrians



- » **MODE SHARE** Vital Streets will reduce single-occupant auto travel and will improve public health by providing people of all ages and abilities with opportunities for active living:
 - Grand Rapids city mode distribution from American Community Survey (compared year on year).
- » **PERSON THROUGHPUT** Vital Streets will increase the number of person-trips through the incorporation of pedestrian, bicycle, and transit accommodations, as appropriate, that will be designed to invite and attract additional non-auto users.
 - Total daily trips made within the City of Grand Rapids (derivation of National Household Travel Survey)
 - Select corridors/cordons peak hour counts ((vehicles * 1.1 occupants) + transit riders + observed pedestrians + observed bicyclists)
- » **PERSON DELAY** Vital Streets value all travelers and shall be designed to minimize the overall delay experienced by all persons traveling through a critical intersection(s).
 - Percent reduction in person delay at improved intersections—Former to Improved (Highway Capacity Manual methodology for calculating vehicle, pedestrian and bicycle delay and adapted to apply transit passenger volumes)
- » **STORMWATER RUNOFF** Vital Streets are green streets and a measure of their ability is the reduction of stormwater immediately flowing to the City's stormwater system and waterways.
 - Volume infiltrated per year (gallons) by green infrastructure
 - Acreage from which the first inch of rain is treated for water quality by green infrastructure
- » **PUBLIC SATISFACTION** Many aspects of street design success cannot be quantitatively measured. However the qualitative assessment of residents, businesses, workers, and other stakeholders regarding the street's aesthetic is a critical measure of Vital Street success.
 - Annual Vital Streets web-based voluntary survey



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E. WOODLAND



FORM AND FUNCTION

The Vital Streets Plan uses each street’s transportation function and community and environmental context to inform street design decisions. The plan includes two maps—a street typology map and a mode emphasis map—to aid City staff when making road design decisions.

STREET TYPOLOGY

The Vital Streets Plan assigns a street type to all City streets based on a street’s land use characteristics and transportation function. A street may not have the same typology for its entire length. For example, a street may travel through a low-density residential neighborhood to a neighborhood business district to an area of industry.

Street types are outcome-oriented, driven by an overall vision for the intended future state—both localized and network wide. All types of streets must support a high quality residential environment and provide network connectivity for all modes.

MODE EMPHASIS

Many City streets are also assigned a modal emphasis that refers to the user: pedestrian, bicyclist, auto driver, truck driver, or transit operator. The modal overlays generally continue for the whole street corridor to provide a continuous modal network. How that mode is emphasized in a particular segment—how the street is design—may deviate along the length of a corridor in response to the street typology. For example, a corridor designated for transit emphasis may, in some portions, require a designated travel lane exclusively for transit use, while in other segments only need modest changes to signal operations or intersection design.

STREET TYPES

STREET TYPE MAP

NW

NE

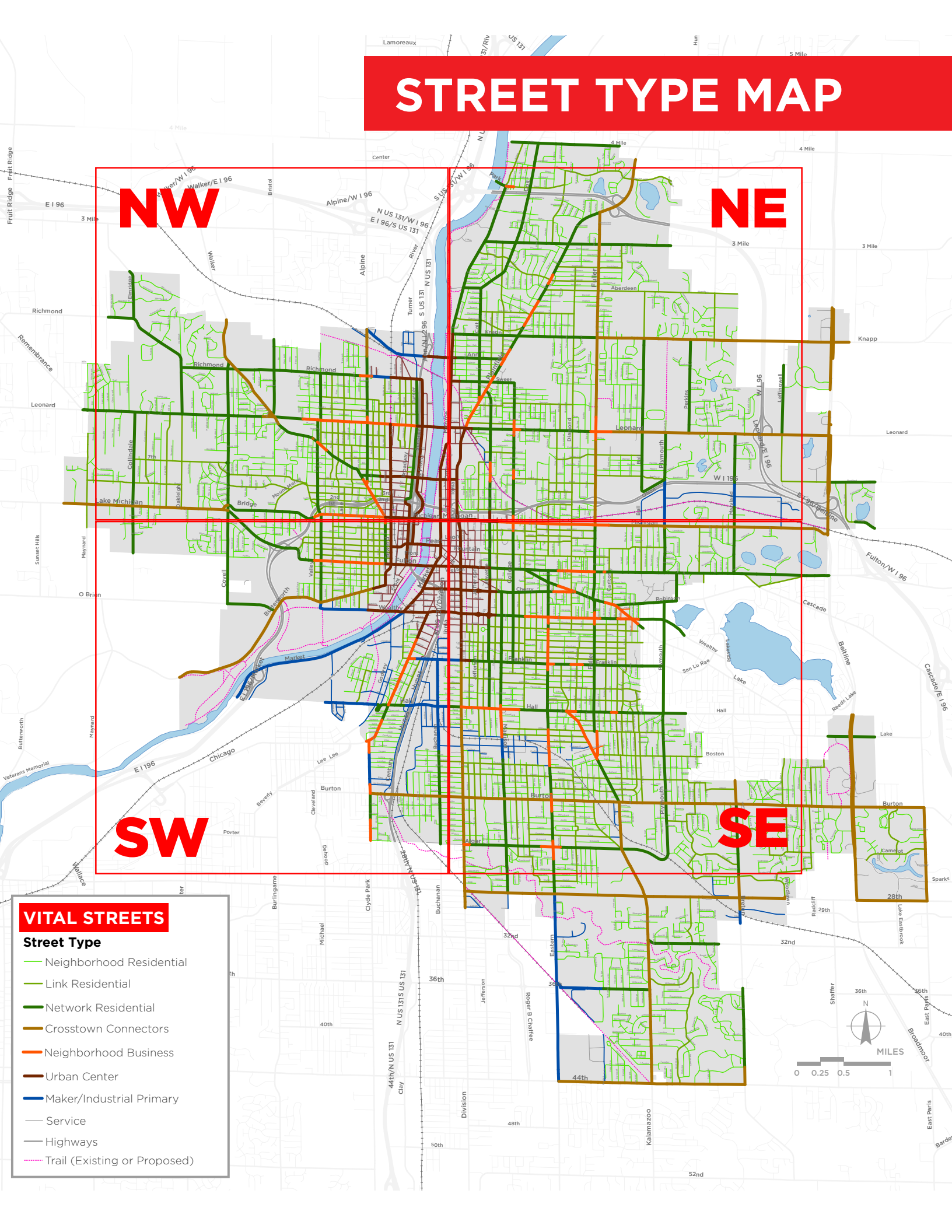
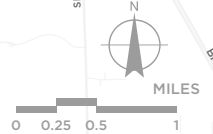
SW

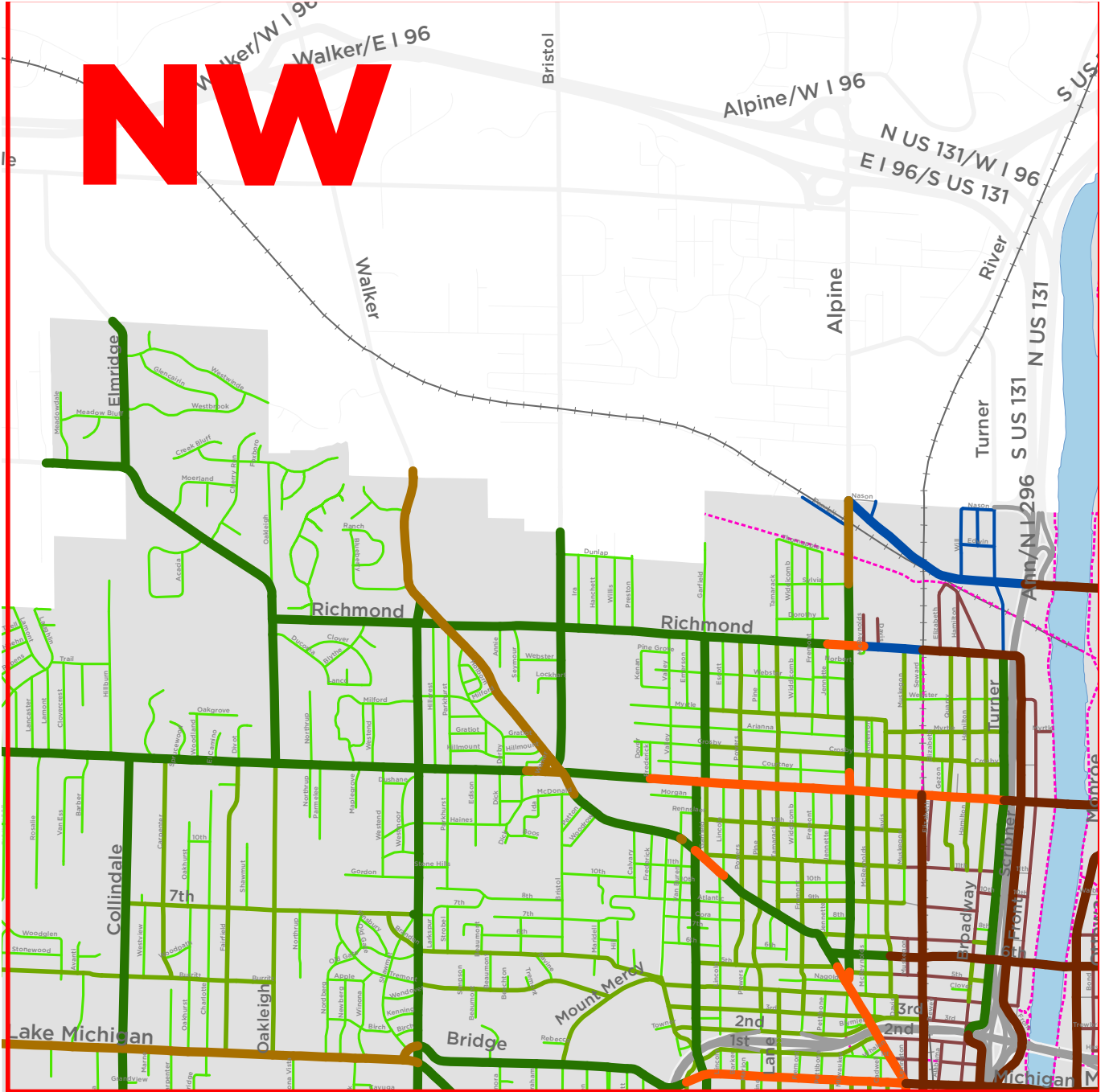
SE

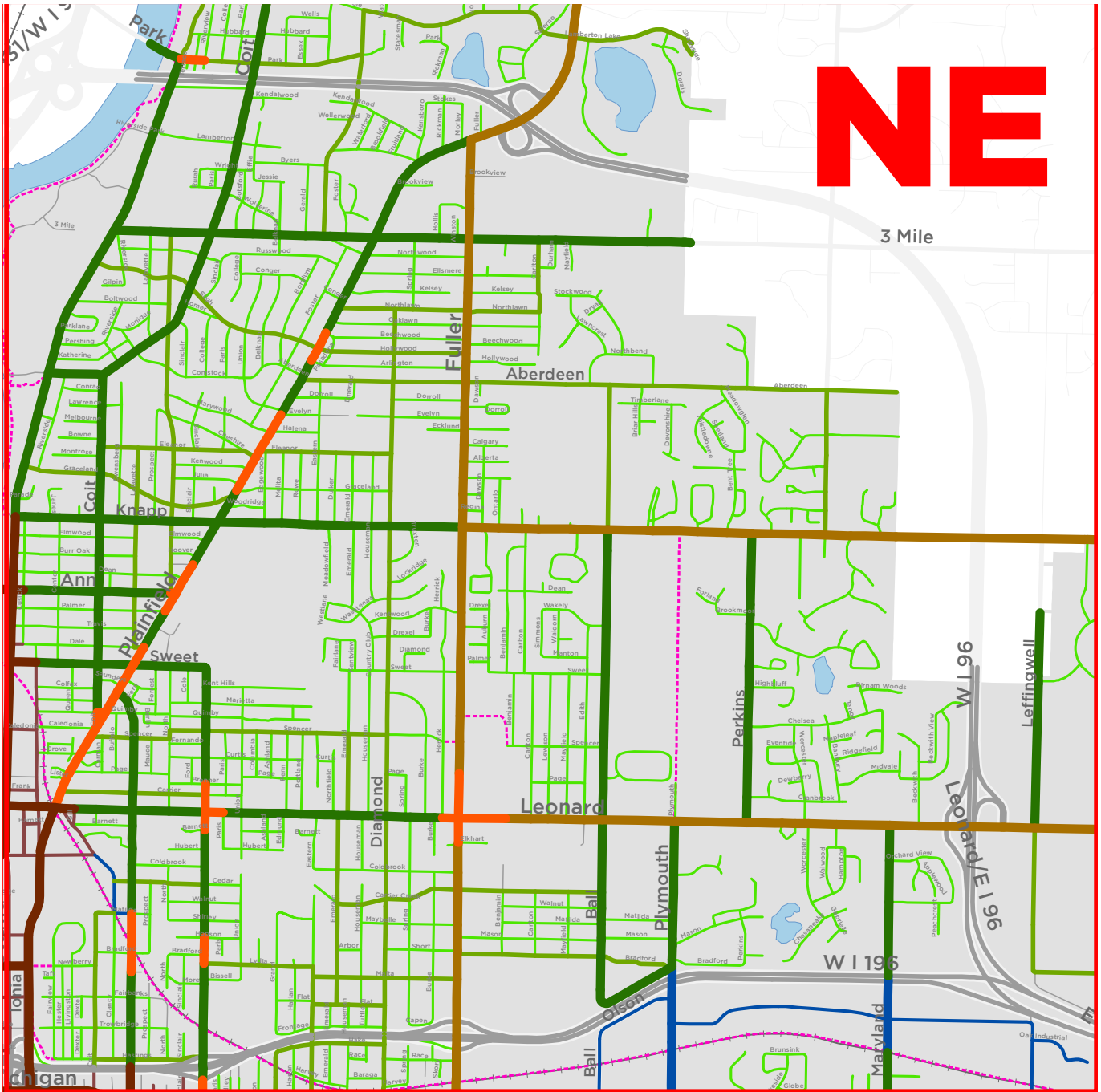
VITAL STREETS

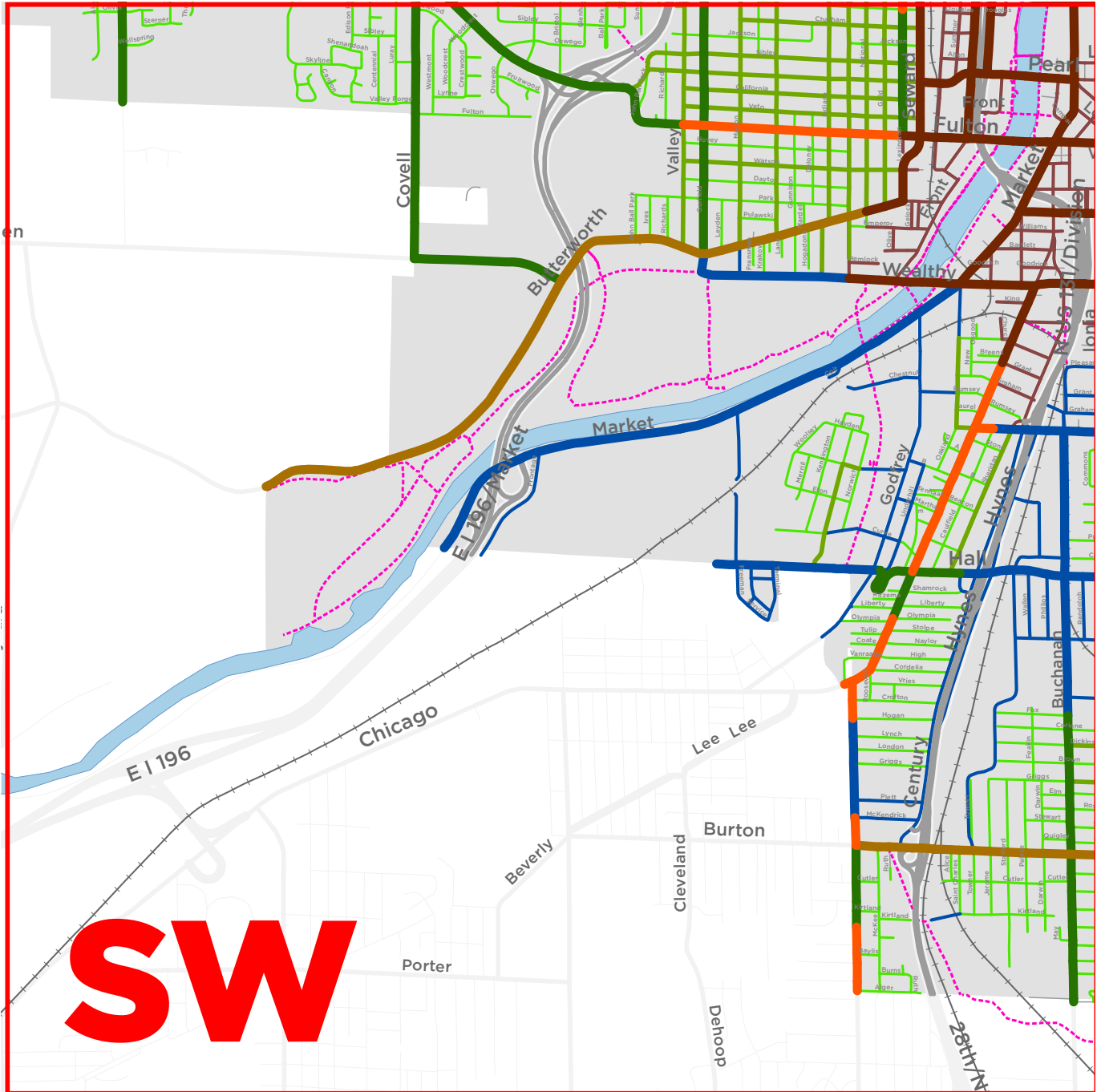
Street Type

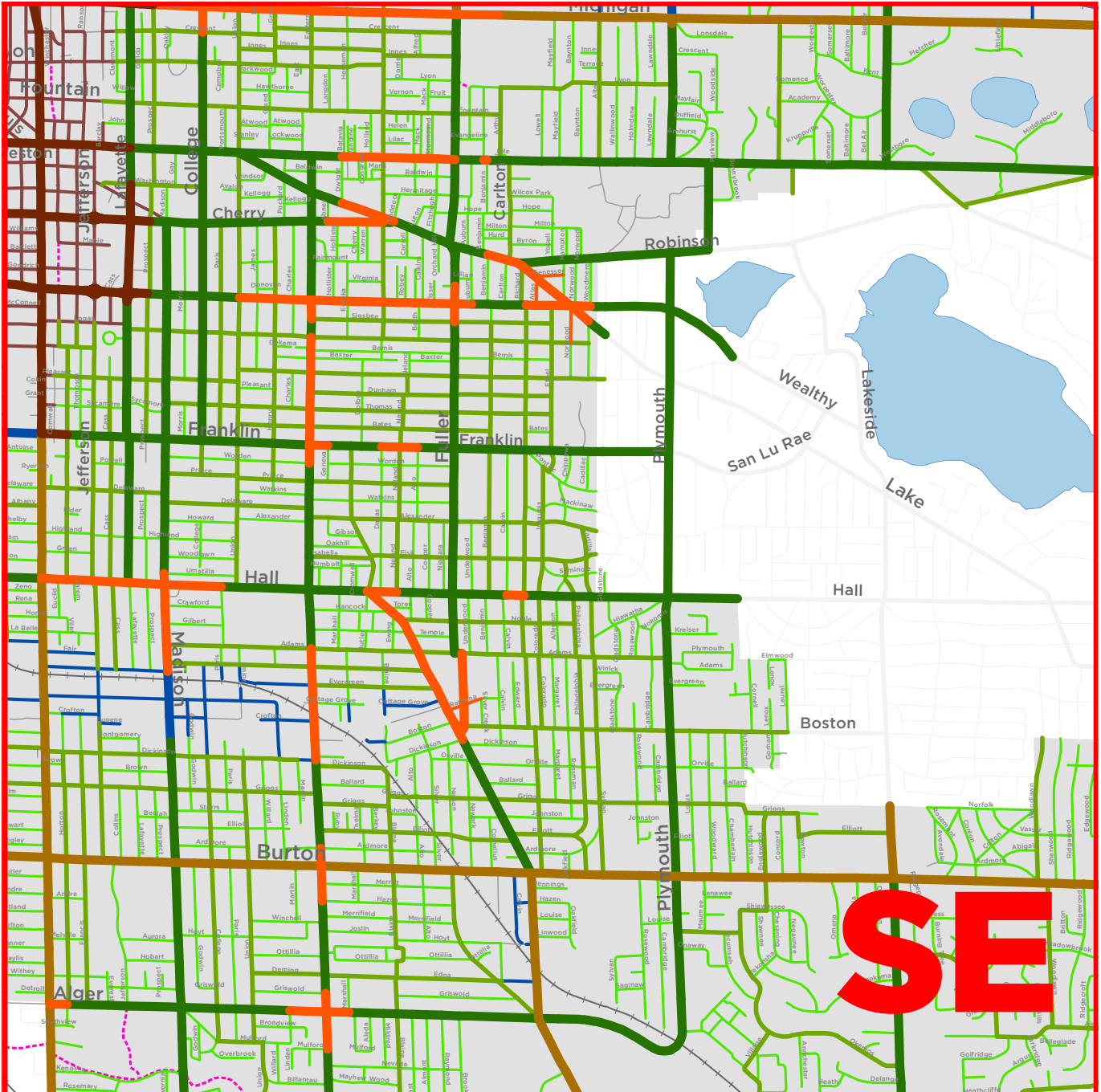
- Neighborhood Residential
- Link Residential
- Network Residential
- Crosstown Connectors
- Neighborhood Business
- Urban Center
- Maker/Industrial Primary
- Service
- Highways
- - - Trail (Existing or Proposed)



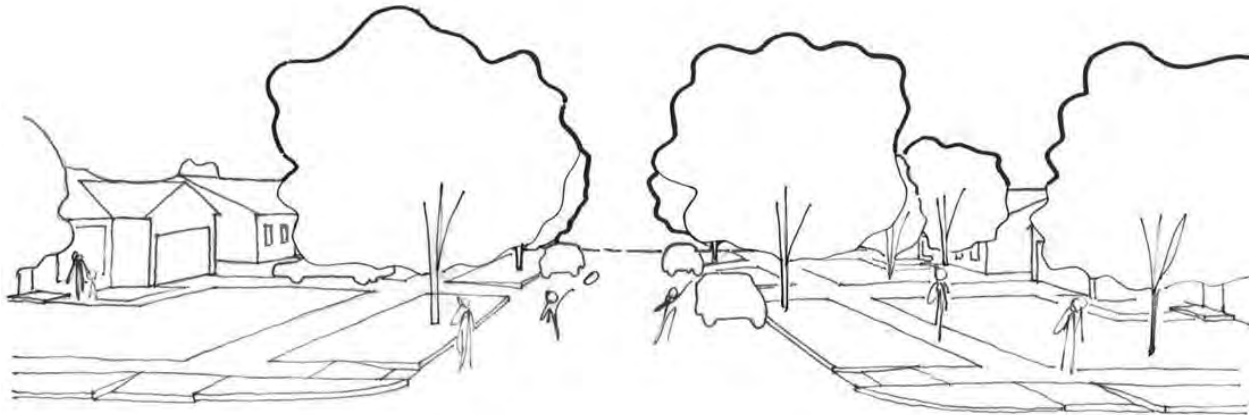








NEIGHBORHOOD RESIDENTIAL



1. Narrow travel ways, slow speeds
2. Abundant green space
3. Driveways are common
4. On-street parking

Neighborhood Residential streets invite residents to use the streets as common gathering places and linear green space.

Much of Grand Rapids consists of quiet residential communities characterized as “Modern,” “Mid-Century” or “Traditional” in the City’s Neighborhood Pattern Book.

Land use along these streets is primarily low-to-moderate density in nature, generally with single-family detached or duplex style homes.

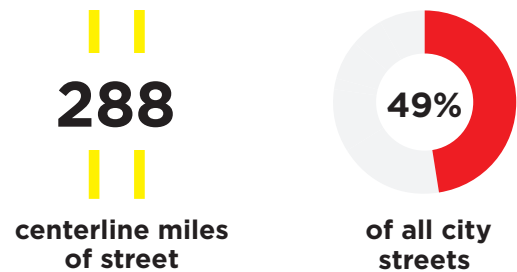
Neighborhood Residential streets are not principal streets in the regional vehicular transportation network, although they may serve as an important link for pedestrians and community bicyclists who generally travel at lower speeds. Neighborhood Residential streets generally do not feature transit service. Additionally, truck traffic may be restricted on these streets.

These streets typically have limited connectivity to the larger network.

EXAMPLE STREETS:

- » Oakleigh Avenue, Westend Avenue, or Jackson Street NW.
- » Lamberton, Graceland, or Mason Streets NE.

PREVALENCE OF NEIGHBORHOOD RESIDENTIAL STREET TYPE:



- » Morris Avenue, Griswold Street, or Meadowbrook Street SE.
- » Dayton Street, Caulfield Avenue, or Olympia Street SE.

ANTICIPATED AND DESIRED USES:

- » Community interactions in the public rights-of-way such as visiting neighbors.
- » Shared use of the street as an extension of recreational space.
- » Community low-stress non-motorized travel by foot or bicycle.
- » Property access through driveways and on-street parking.
- » Short distance (last block) vehicle travel.
- » Grey and green infrastructure (utility corridors).

PRIORITY USERS:

- » **Pedestrians** of all type and abilities but with particular attention to **vulnerable users** including young children, seniors, and persons with disabilities.

DESIGN OBJECTIVES:

- » Maintain low vehicle volumes and low travel speeds.
- » Design streets as linear greenways and open spaces.
- » Provide access to homes and residences.

TYPICAL DESIGN FEATURES AND TREATMENTS:

- » Narrow street travel ways that are most commonly bi-directional “yield” streets without a marked center line. Vehicles must pull to the side and slow or stop to enable an approaching vehicle to pass.
- » The limited connectivity and narrow travel lanes generally manage speeds and deter non-local traffic, however in some cases active speed control or traffic deterrents may be needed.
- » Intersections may be stop-controlled, yield-controlled or uncontrolled. Intersections may have diverters, neck downs, or other traffic calming treatments.
- » Crosswalks generally are not marked. Pedestrians may comfortably cross the street at any point along its length.
- » Properties may be accessed from the street or by way of alleys. Multiple access points and driveways are common.

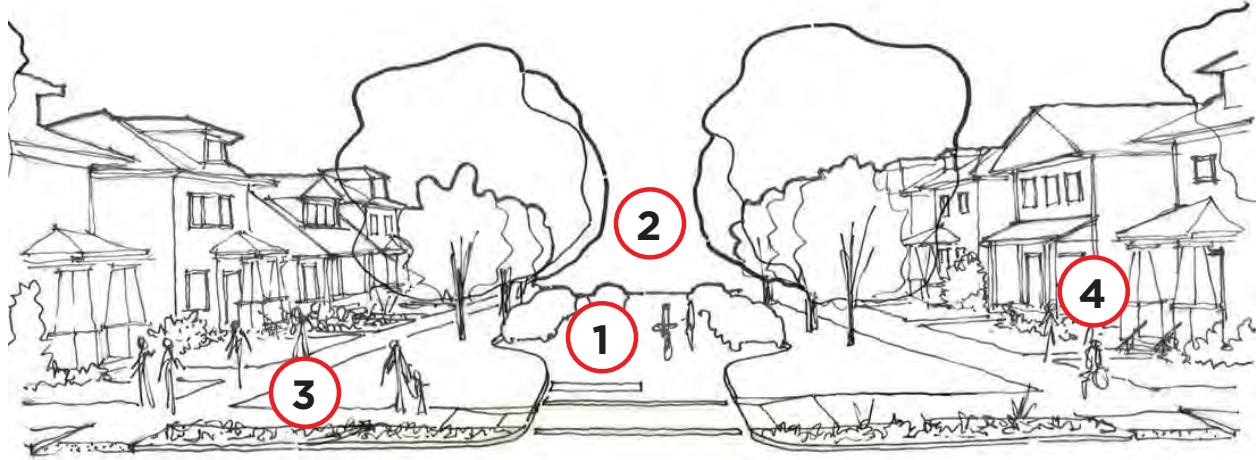
- » Adequate front yards and parkways to support large street trees and dense canopies.
- » Sidewalks on both sides of the street are preferred unless the street is a shared street. A shared street is a street where pedestrians and other users share and mix together using the entire streetscape. Shared streets are typically single block streets with limited connectivity and very few vehicles.
- » Impervious surfaces are minimized.
- » On-street parking is generally provided on one or both sides of the street.
- » Separate bicycle facilities are generally not provided. Vehicle speeds and volumes are low enough to provide safe and low-stress bicycle accommodation within the street.
- » For streets included in the low stress bicycle network, traffic calming, diverters, wayfinding, and other treatments should be provided.

TYPICAL/TARGET METRICS:

- » Vehicle volumes below 2,000 vehicles per day
- » Vehicle speeds <25 MPH
- » Face-to-face of curb 26' to 30'



LINK RESIDENTIAL



1. Active speed control and traffic calming
2. Narrow, two-way street
3. Substantial yards & parkways
4. Comfortable design for persons on bicycles

Link Residential streets serve a larger network function, providing connectivity between nearby neighborhoods or local destinations. They are most typical in areas with traditional neighborhood character and a connected grid of streets, but may be in any neighborhood type.

Link Residential streets are predominantly low-to-moderate density residential in character and must be designed to support a high quality of residential life. Link Residential streets are commonly the location of local community facilities such as parks or recreational facilities, schools, or houses of worship.

Although Link Residential streets may have a slightly higher volume of vehicular traffic than the Neighborhood Residential street, vehicle travel must be maintained at a low speeds to respect and enable the local community uses common on these streets.

Link Residential streets are not principal streets in the regional vehicular transportation network. They play an important role in the local transportation network for all modes of travel, with an emphasis on pedestrians, bicyclists, and local area vehicle travel. Link Residential streets

PREVALENCE OF NEIGHBORHOOD LINK RESIDENTIAL STREET TYPE:



may be ideal as designated bicycle corridors and may, or may not, provide designated and marked bicycle facilities. Fixed route bus transit may be provided on some Link Residential streets. Link Residential streets may accommodate a modest amount of local delivery truck traffic but are not designated truck routes.

EXAMPLE STREETS:

- » Marion Avenue NW and SW from Butterworth to Bridge St.
- » Crescent Street NW from Lafayette to Fuller.
- » Logan Street SE from Lafayette to Glenwood.
- » Griggs Street SE from Buchanan to Newton.

ANTICIPATED AND DESIRED USES:

- » Community interactions in the public rights-of-way that characterize and reflect a quality residential neighborhood environment.
- » Modest pedestrian volumes.
- » City or regional low-stress bicycle travel.
- » Lower frequency bus transit.
- » Modest distance (last mile) vehicle travel.

PRIORITY USERS:

- » Link Residential streets prioritize **pedestrian movement and bicycle travel** in addition to accommodating local vehicle access and circulation.
- » Link Residential streets are true complete streets that provide safe accommodation for all users.
- » Link Residential streets explicitly designated as key components of the bicycle network emphasize bicycle accommodation for both experienced and less experienced bicyclists.

DESIGN OBJECTIVES:

- » Maintain modest vehicle volumes and low travel speeds.
- » Design streets as linear greenways and open space.
- » Provide access to residences and community facilities.
- » Connect to local destinations.

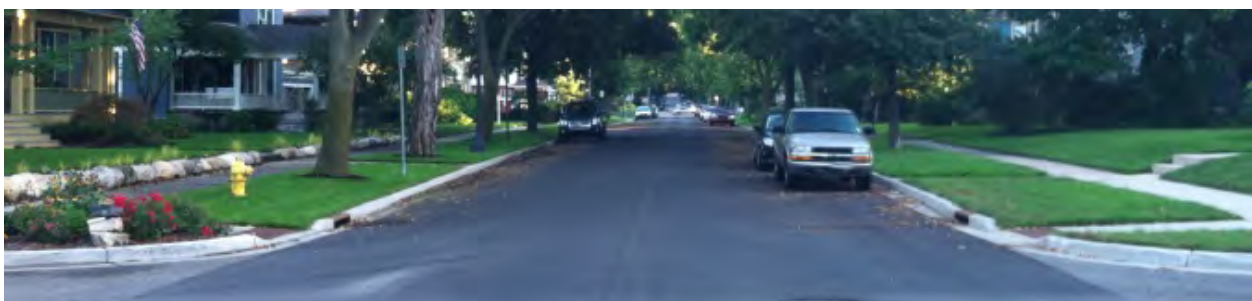
TYPICAL DESIGN FEATURES AND TREATMENTS:

- » Narrow travel lanes. Larger vehicle types such as transit vehicles or trucks, although permitted, are fairly infrequent on Link Residential streets. Narrow lane widths provide adequate accommodation for movement of these vehicles.

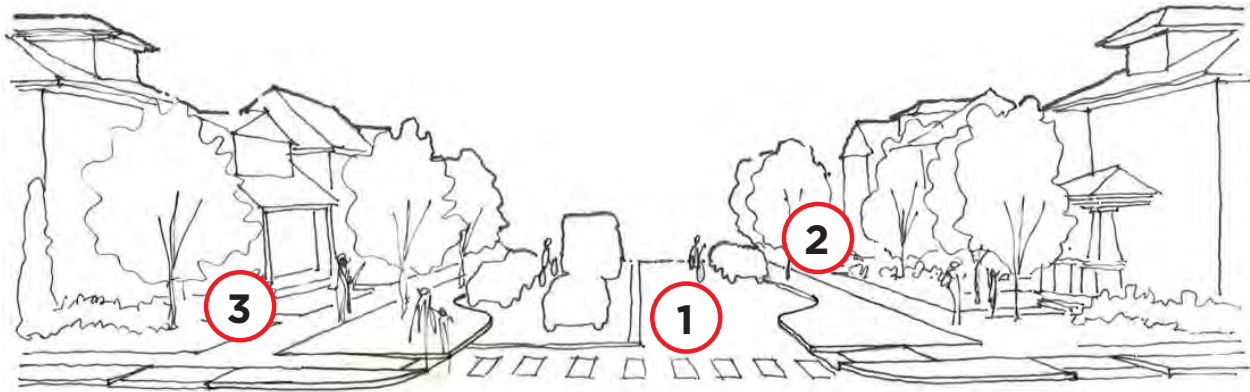
- » Narrow travel lanes generally manage speeds; in some cases active speed control and traffic calming may be needed.
- » Bi-directional streets are preferred. The center line may or may not be marked. Streets may be “yield” streets requiring vehicles to move to the side to permit oncoming traffic to pass.
- » Intersections are frequent. Stop controls and/or neighborhood traffic circles at many intersections are acceptable to deter high volumes of longer distance vehicle travel.
- » Crosswalks may or may not be marked. Pedestrians may typically comfortably cross the street at any point along its length.
- » Consolidated curb cuts or shared alleys are encouraged and preferred, but multiple access points and driveways may be common.
- » Adequate front yards and parkways to support large street trees and dense canopies.
- » Streets should provide sidewalks on both sides. Sidewalk dimensions should be scaled to accommodate the modest pedestrian volumes using these link streets.
- » On-street parking is generally provided on at least one side of the street.
- » Link streets are key for bicycle and pedestrian networks. Designated bicycle facilities may or may not be provided, but for streets specifically designated as components of the low stress bicycle network, traffic calming, diverters, wayfinding and other treatments should be provided.

TYPICAL/TARGET METRICS:

- » Vehicle volumes between 2,000 and 5,000 vehicles per day
- » Vehicle speeds approaching 25 MPH
- » Face-to-face of curb 28' to 36'



NETWORK RESIDENTIAL



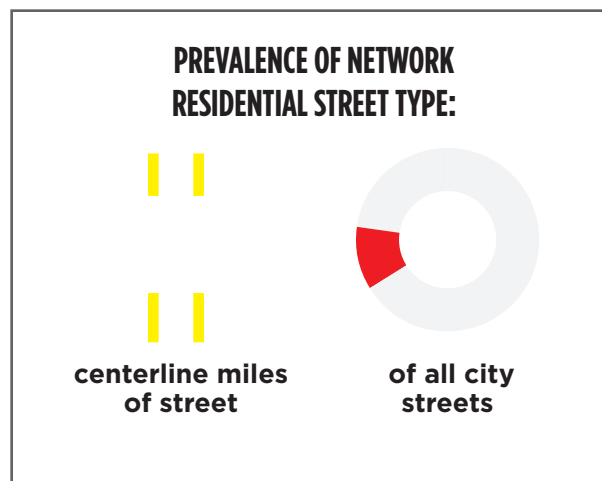
1. Marked centerline
2. Shared access points; few driveways
3. Sidewalks on both sides

Network Residential streets are quality residential corridors that also serve critical roles in the larger transportation network by efficiently and safely moving regional vehicle and non-motorized users.

Network Residential streets are similar to arterial roadways in the standard street classification system used by State and Federal agencies. However, the design of Network Residential streets is more sensitive and attentive to non-auto users than is typical in traditional arterial roadway design.

While family homes are the predominant land use, residential density may be higher along these corridors than is typically found in the Neighborhood or Link Residential and Crosstown Connector street types. Local community facilities such as parks or recreational facilities, schools or houses of worship are common on these streets and may be interspersed with some industrial or production space, or very small commercial uses.

Despite their regional network role, Network Residential streets should still be designed to contribute to and enhance the residential character and support typical neighborhood activities including active use of front yards for play or leisure, active use of sidewalks, and safe accommodation of community bicyclists—including very young, less experienced, or less confident riders. These uses and interactions are typically contained behind the curb and separated from vehicle traffic.



These streets may have moderate to higher volumes of traffic—particularly during peak travel hours. As with other residential streets, however, vehicle travel must be maintained at modest speeds in respect to the residential community, their quality of life, and resident safety.

Network Residential streets are primary streets in the regional transportation network for all modes of travel including pedestrians, bicyclists, private vehicles, transit, and trucks. Network Residential streets often have some level of transit service and some may feature frequent transit service. Network Residential streets are generally included in the city's truck route network. They may also, however, serve as critical backbones to the regional bicycle network. Given the higher vehicle volumes, streets designated as critical to the bicycle network generally require at least designated bicycle facilities (such as bike lanes) and may require separated or protected bicycle facilities.

EXAMPLE STREETS:

- » Covell Avenue SW and NW from O'Brien to Walker.
- » Fulton Street from Arthur to East Beltline.
- » Leonard Street NW from Benning to Frederick and Leonard Street NE from Coit to Herrick, excepting areas of local business concentration.
- » Buchanan Avenue from Cottage Grove to the city boundary.

ANTICIPATED AND DESIRED USES:

- » Community travel, uses and interactions in the public rights-of-way typical of a strong and healthy residential community.
- » Moderate-to-high pedestrian volumes.
- » City or regional commuter bicycle travel and community bicyclists.
- » Moderate-to-high frequency bus transit.
- » Modest truck volumes.
- » Moderate-to-significant local and longer distance (crosstown) vehicle travel.

PRIORITY USERS:

- » Network Residential streets are complete streets and must provide safe accommodation for **all users**.
- » Some streets may be designated as key links in a modal network (bicycle, transit, or crosstown vehicle) and thus be designed with a slight prioritization for accommodation and efficient travel of that mode.

DESIGN OBJECTIVES:

- » Protect residential quality of life.
- » Accommodate safe and efficient crosstown connectivity via a diversity of modes.

- » Provide a quality street, natural environment, and the unique sense of place.

TYPICAL DESIGN FEATURES AND TREATMENTS:

- » Narrow travel lanes with marked center line. Streets are commonly bidirectional.
- » Curb or center lanes may be slightly wider on streets that have demonstrated higher volumes of larger vehicle types, such as transit vehicles or trucks. Narrow lanes should be used to effectively manage traffic speeds while maintaining safety.
- » Certain traffic calming design interventions may be used to maintain vehicle speeds that are consistent with a safe and quality residential environment. Speed humps are generally not used on Network Residential streets.
- » Intersections are commonly signal controlled or uncontrolled along the Network Residential street (side streets are stop controlled).
- » High visibility crosswalks should be provided at signalized intersections. Typical (continental) crosswalks may be provided at higher volume or otherwise significant unsignalized locations. Crossings may be unmarked at intersections. Regardless of the presence or absence of markings, these remain legal pedestrian crossing locations.
- » Shared driveways or alleys are preferred. Curb cuts and other access points should be limited, where possible.
- » While large canopy trees are desired, creative solutions are encouraged where the demands of the street compromise the amount of space that can be provided for tree growth in the parkway.



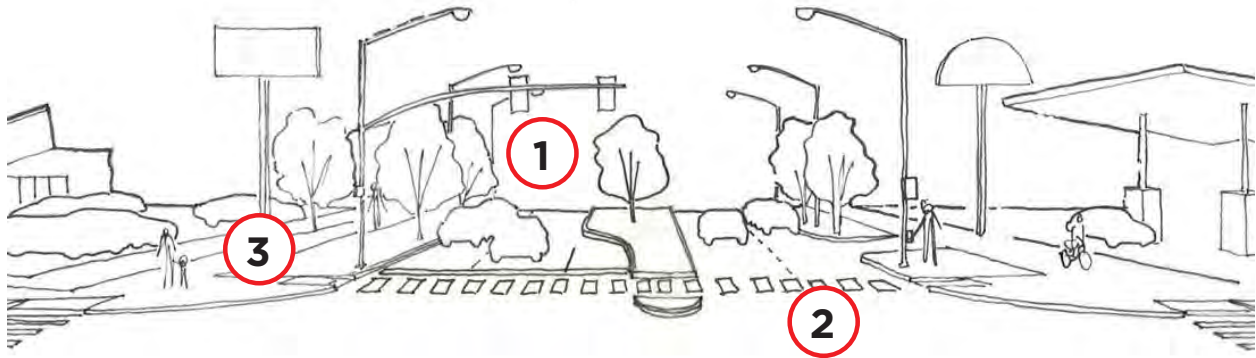
- » Highly visible gateway or identity elements that mark the transition into or out of distinct neighborhoods and to celebrate and highlight unique character or identity should be considered.
- » Streets must provide sidewalks on both sides. Sidewalk width is generally wide. Pedestrians should be buffered from the curb of the street by a generous parkway or amenity zone.
- » On-street parking on one or both sides of the street is generally desired.
- » Network Residential streets are key links for bicycles and pedestrians, as well as for vehicles (transit, trucks, and private vehicles). Given the higher volumes and speeds, key bicycle corridors must have designated marked and/or protected bicycle facilities.

TYPICAL/TARGET METRICS:

- » Vehicle volumes greater than 5,000 vehicles per day
- » Vehicle speeds 25 MPH
- » Face-to-face of curb 36' to 58'



CROSTOWN CONNECTORS

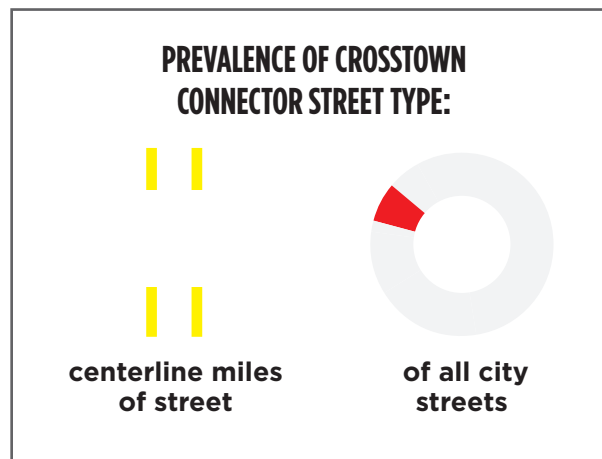


1. Greater vehicle capacity and efficiency
2. Well marked pedestrian crossings
3. Parkways buffer sidewalks from moving travel lanes

Grand Rapids has several larger, regionally significant streets that move a high volume of motor vehicle traffic, while accommodating transit stops, pedestrians, Adequate front yards and parkways to support large street trees and dense canopies, and bicycle activity. Given high traffic volumes traveling at somewhat higher speeds, these streets typically require that bicyclists and pedestrians be physically separated from traffic. Crossings must be safe and well-marked with adequate crossing time.

Generally serving low density, commercial, parkland, institutional, and residential land uses, street environments at present often lack a distinctive character. The current character of Crosstown Connectors varies from the sprawling strip retail character of 28th Street to the traditional built form of Division Street to the parklike boulevard of East Beltline.

Crosstown Connector streets are critically important in the regional travel network and are generally continuous from one end of the city to another. They may also connect from a point in the city to travel corridors that continue further into the region. Crosstown Connectors commonly have heavy vehicle volumes and may feature a significant number of commercial vehicles. In addition to automobiles, streets often have significant demands by transit users and bicyclists. While the pedestrian environment



on Crosstown Connector streets is often challenging, pedestrian mobility is imperative. Given the high traffic volumes and relatively high speeds, non-motorized users should be well protected and buffered from moving traffic.

Tree canopies and landscaping currently vary from greener, more boulevard-like streets such as East Beltline to streets with less distinctive green edges such as 28th Street. Regardless of existing conditions, street trees along the curb line are important to establish an attractive character and improve the overall environment.

EXAMPLE STREETS:

- » Lake Michigan Drive NW from the city line to Covell.
- » Fuller Avenue NE from the city limit to Michigan (excluding the small nodes of Neighborhood Business).
- » Burton Street SE.

ANTICIPATED AND DESIRED USES:

- » Significant through vehicle travel.
- » Access to major employment and commercial destinations.
- » Safe non-auto travel options both day and night through all seasons.

PRIORITY USERS:

- » Through vehicle travel.
- » **Through person travel** via all modes.
- » Worker and patron access.

DESIGN OBJECTIVES:

- » Improve street character while maintaining critical connectivity for through travel.
- » Support current and planned land uses.
- » Improve safety and operation for all users.

TYPICAL DESIGN FEATURES AND TREATMENTS:

- » Appropriately scaled travel lanes to support through travel as well as safe pedestrian crossings.
- » Medians and pedestrian refuges for pedestrian safety and safe vehicular movement.
- » High visibility lane markings.
- » Frequent pedestrian crossings to minimize crossing at uncontrolled locations. Marked crosswalks must be provided at all transit stops.

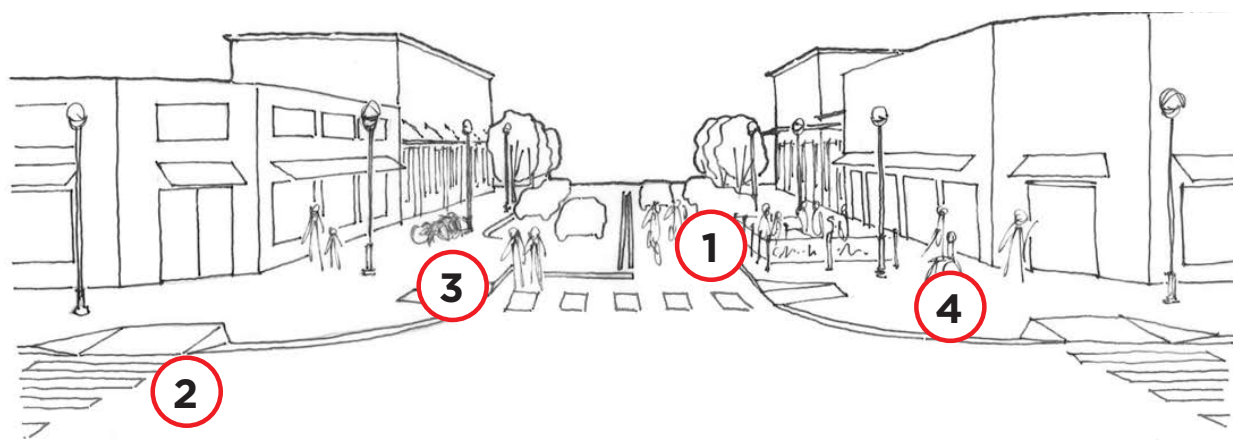
- » Continuous sidewalks on both sides of the street. Sidewalks may be widened to serve as shared use paths for pedestrians and community bicyclists.
- » Streets generally do not have on-street parking, though temporal (rush hour prohibited) parking may be provided.
- » Bicycle parking in the sidewalk zone of the street should be provided.
- » If transit service is provided, transit stops should be well lit and contain appropriate amenities.
- » Streets may either have abundant access points or strictly limited access controls.
- » Intersections are signalized.
- » Large canopy trees along the curb line help delineate the street edge and provide a sense of enclosure to the street.
- » Street lighting is critical for the safety of all. Both the pedestrian zone and the travelway should be well illuminated. Special attention is necessary at intersections and pedestrian crossings.

TYPICAL/TARGET METRICS

- » Vehicle volumes greater than 15,000 vehicles per day
- » Vehicle speeds ≥ 25 MPH
- » Face-to-face of curb 36' to 58' or more



NEIGHBORHOOD BUSINESS



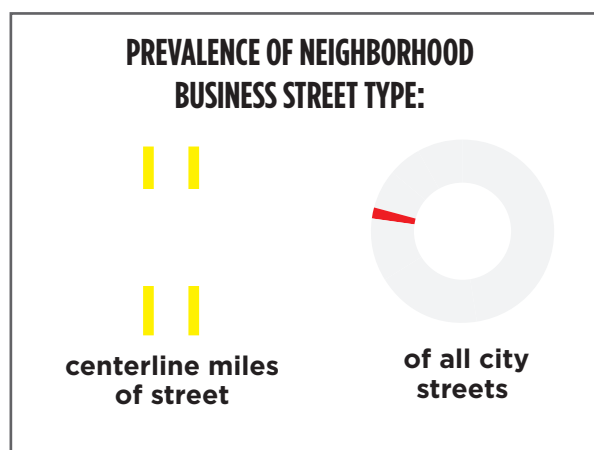
1. Narrow travel lanes
2. Frequent pedestrian crossings
3. Parking for both vehicles and bicycles
4. Generous sidewalks

The **Neighborhood Business** streets are typically compact areas that occupy only a segment along a longer street corridor. Neighborhood business districts are unique areas within Grand Rapids neighborhoods. They provide dining, shopping and employment opportunities while adding character and commerce to the Grand Rapids economy. Neighborhood Business districts are not just destinations for local residents, they are visited by patrons from across the region.

Neighborhood Business streets are generally moderate to higher volume multimodal streets.

The quality of the pedestrian environment is of paramount importance. Inviting sidewalk zones correspond positively with higher retail sales and greater commercial value of properties along Neighborhood Business streets. Pedestrians must be able to cross the street safely at multiple points to access the many offerings of the district. The pedestrian zone is buffered from roadway traffic by curbside parking or a generous amenity zone to increase pedestrian comfort. Formal or informal seating is common to invite pedestrians to gather, visit and linger along the street. Pedestrian scaled street lighting increases the attractiveness of the street during evening hours.

Access for delivery vehicles, patrons and workers is equally critical to the success



of Neighborhood Business streets. These users may arrive by foot, bicycle, transit, or personal vehicle, and all modes should be comfortably accommodated.

Street vehicle speeds should be slow and well managed.

Robust tree canopies contribute positively to the economic productivity of these streets and districts. Studies have shown that patrons will stay longer and spend more on tree-lined streets compared to those bereft of tree coverage.

Neighborhood Business streets are critical segments in the larger city or regional street network. They accommodate travel demands both to and through the business district and must provide safe access and mobility for all modes of travel, although they may be prioritized for one or more modal emphases. It is often difficult to provide separated or protected bicycle facilities on these streets given the variety and volume of mobility demands. However, when the segment is a component of the bicycle priority network, designated and marked facilities must be accommodated.

EXAMPLE STREETS:

- » Wealthy Street SE from Union to Auburn
- » Michigan Street NE from Prospect to Fuller
- » Grandville Ave SW from Hall to Grant

ANTICIPATED AND DESIRED USES:

- » Commercial activities such as café dining or outdoor retail.
- » Residential uses both at the ground and upper levels.
- » Patron, client, and employee access by way of vehicle and bicycle parking, quality transit stops, and inviting pedestrian zones.
- » Moderate-to-high pedestrian volumes.
- » Moderate-to-high frequency bus transit service and access.
- » Delivery truck access.

PRIORITY USERS:

- » **Commercial patrons and visitors.**
- » Delivery vehicles.
- » Workers and proprietors.

DESIGN OBJECTIVES:

- Support and strengthen economic productivity and value.
- Enable efficient and unobtrusive delivery of goods and/or high frequency and brief commercial transactions (e.g. short duration stops).
- Enhance street quality and image.
- Enhance access via all modes (pedestrian, bicycle, transit, personal vehicle).
- Accommodate multimodal through travel.

TYPICAL DESIGN FEATURES AND TREATMENTS

- » Narrow travel lanes to slow traffic speeds and minimize pedestrian crossing distance.
- » Bi-directional street operations are preferred. Center line may or may not be marked.
- » Short block lengths and frequent intersections are preferred. Intersections may be stop or signal controlled, or uncontrolled.
- » Pedestrian crossings along the length of the segment should be anticipated.

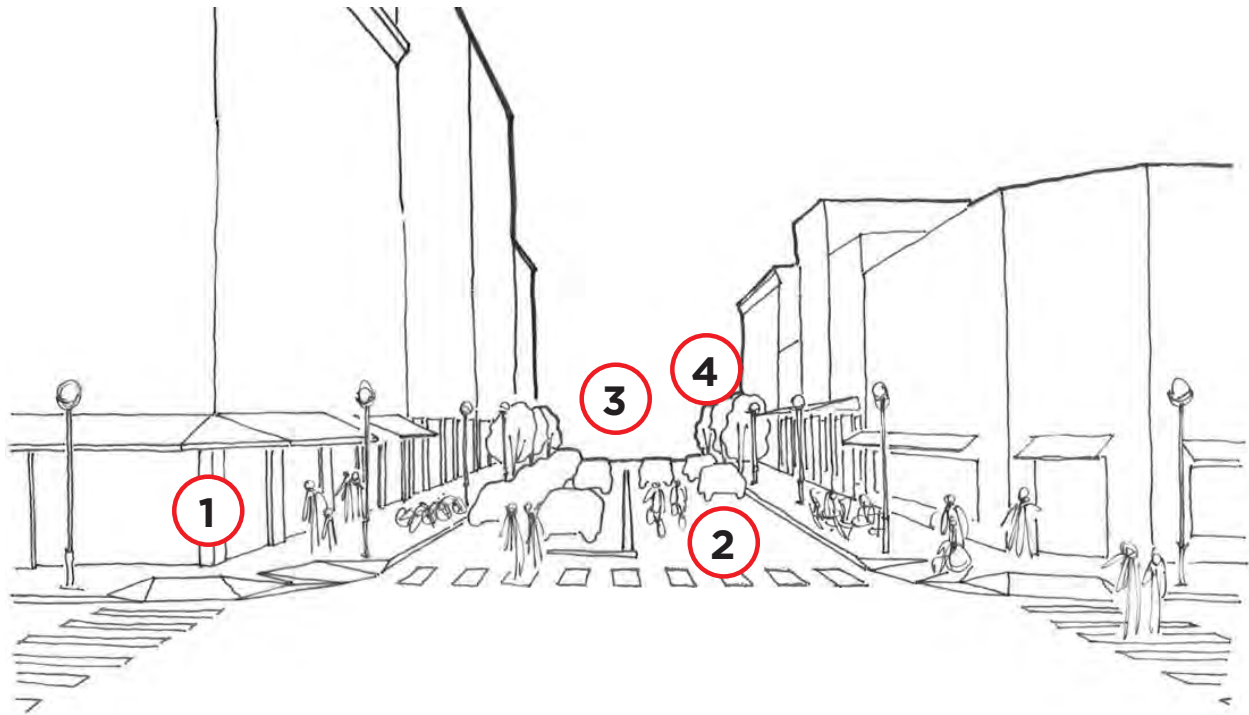
Crosswalks may or may not be marked at uncontrolled locations. Midblock crossings connect trip generators on opposing sides of the street and minimize out of direction travel for pedestrians. Crosswalks should be marked at controlled intersections.

- » Streets must provide generous sidewalks on both sides, adequately buffered from vehicle traffic. Pedestrian seating is recommended.
- » On-street parking on one or both sides of the street is preferred. Sufficient and convenient bicycle parking is required.
- » Parking should be well managed to optimize occupancy while concurrently providing a limited but continuous amount of available access. Parking may or may not be metered.
- » Adequately scaled and spaced loading zones are required to support commercial needs. Loading periods may be managed and loading zone usage enforced.
- » Transit service is common and encouraged on Neighborhood Business streets. Transit stops should provide adequate amenities for a quality rider experience. Transit amenities must not constrain the minimum required pedestrian clear zone.
- » Curb cuts and driveways should be discouraged and minimized in favor of alleys and shared access points from minor and intersecting streets.
- » Large canopy trees are desired. Creativity is encouraged to promote green infrastructure.
- » Streetscape should provide a quality environment. Standard materials, installed with quality workmanship, are acceptable and in many cases encouraged. Special materials may be used if maintenance agreements are provided.
- » Public art, wayfinding, and other unique features of place are appropriate and encouraged.

TYPICAL/TARGET METRICS

- » Vehicle volumes greater than 5,000 vehicles per day
- » Vehicle speeds <25 MPH
- » Face-to-face of curb 36' to 58'

URBAN CENTER

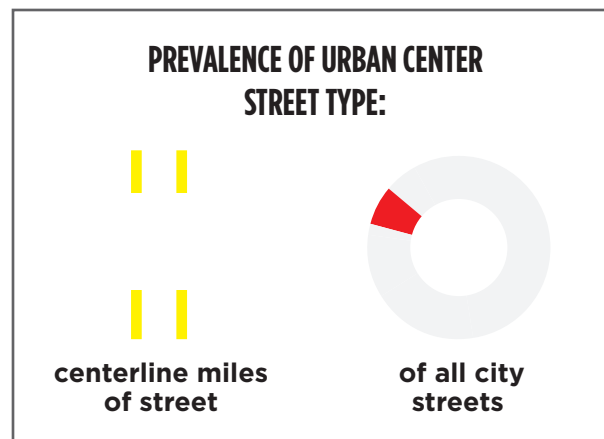


1. Generous sidewalks
2. Well managed loading zones
3. Enhanced streetscape
4. Relatively slow traffic speeds

Grand Rapids' downtown core is a vibrant, mixed-use area with a well-connected street network. Travel demands are intense in the downtown core, with travelers using a variety of different modes. Pedestrian volumes are high, as people travel through downtown streets, window shop, and simply linger as they enjoy the wonderful spaces and offerings.

Urban Center streets represent a wide spectrum—from the highly pedestrianized Monroe Center to the transit-intensive Fulton to the high vehicular demands on Ottawa and Monroe. Downtown streets are Grand Rapids' principal employment and entertainment streets. The streets also support a number of residents, institutions, students, and workers.

Urban Center streets often face the greatest challenges in balancing traveler and land use demands. The streets are active places with outdoor retail, shopping, festivals, public art, parks, and plazas.



Urban Center streets have specific design requirements to provide a high quality public realm that contributes to the city's identity and sense of place. Street trees, elaborate landscaping, and hardscaping are all important components of street design. All must be well maintained with clear responsibilities for maintenance and programming.

Streets may be designated as Urban Center streets in areas that are not currently considered downtown. These designations are aspirational and will encompass many transitioning areas adjacent to the traditional downtown core.

Urban Center streets are important links in the local and regional transportation network. Most have high travel demands by all modes. Even though private vehicle travel is significant, people traveling by transit, bicycle, and on foot well outnumber those traveling in personal vehicles. Parking is important, though is not always provided on street. The supply of off-street parking available to Urban Center streets generally dwarfs the on-street supply.

Traffic speeds should be kept generally slow. This not only makes a more comfortable, inviting street environment, but also commonly increases the vehicle throughput and allows for smooth and reliable traffic flow.

EXAMPLE STREETS:

- » Wealthy Street from Lafayette to Straight Avenue.
- » Seward Street from Leonard to Fulton.
- » Monroe Avenue from Knapp to Wealthy.
- » La Grave Avenue from Fulton to Logan.

ANTICIPATED AND DESIRED USES:

- » Pedestrian activity, both traveling along streets and lingering in the public space dining, window shopping, visiting or gathering.
- » Significant employment, commercial activity, entertainment, institutions, and residences.
- » Intensive multimodal travel—particularly during peak travel periods.
- » Major public events and festivals and signature public spaces.

PRIORITY USERS:

- » Pedestrians.
- » Workers, patrons, students, and visitors arriving via a variety of modes.
- » Active uses of the public space such as outdoor dining, retailing, and community gatherings.

DESIGN OBJECTIVES:

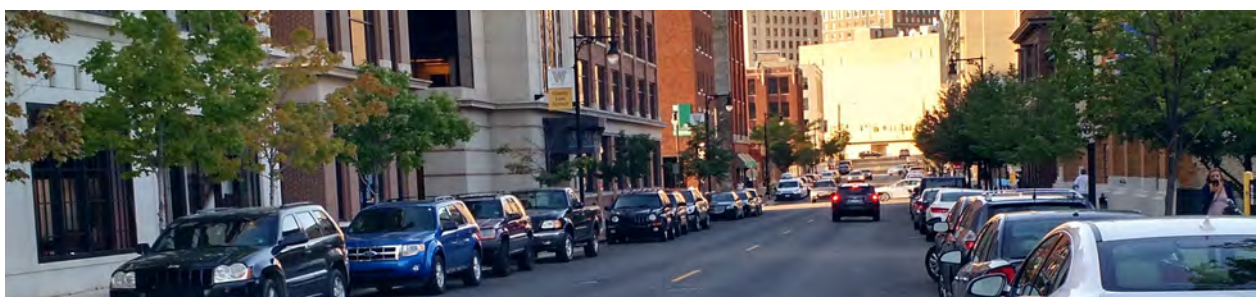
- » Create a distinctive and appealing sense of place for Grand Rapids.
- » Promote access to destinations via a variety of modes.
- » Provide smooth and efficient movement with minimum circling and congestion.

TYPICAL DESIGN FEATURES AND TREATMENTS

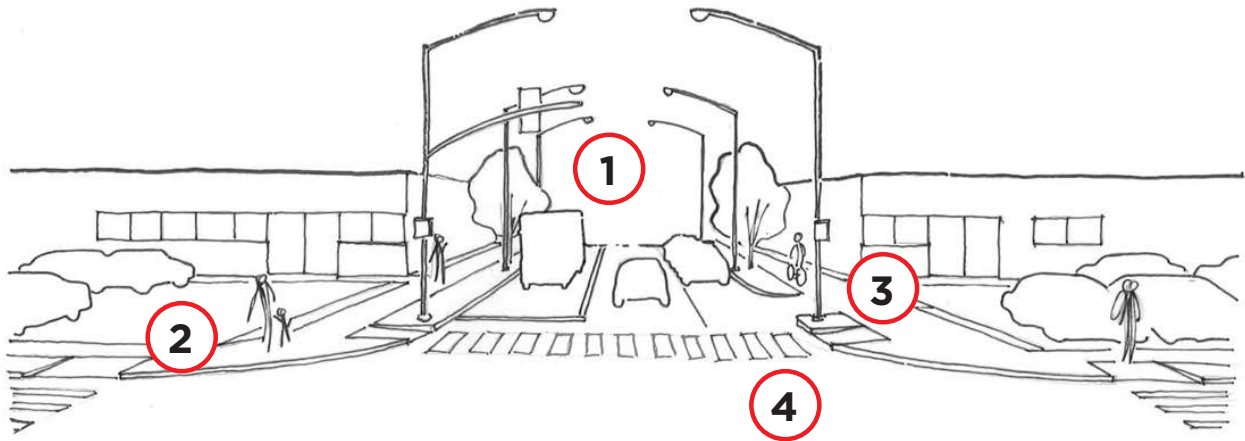
- » Travel lanes scaled appropriate to common users of the street.
- » High visibility lane markings and major pedestrian crossings.
- » Generously scaled sidewalks on both sides of the street. Sidewalks of adequate scale to support both stopped and through pedestrian movements.
- » Abundant vehicle and bicycle parking both on and off street. Well managed loading zones.
- » Frequent transit service should be anticipated. Transit stops suitable for higher rider volumes.
- » Strictly limited curb cuts and access points. Shared alleys are to be encouraged and supported.
- » Large canopy trees and robust landscaping add to streetscape quality. Enhanced streetscape materials and fixtures may be used, however maintenance responsibilities should be clear and enhancements well maintained.

TYPICAL/TARGET METRICS

- » Vehicle volumes greater than 5,000 vehicles per day.
- » Significant pedestrian volumes.
- » Vehicle speeds <25 MPH.
- » Face-to-face of curb 36' to 58'.



MAKER/INDUSTRIAL



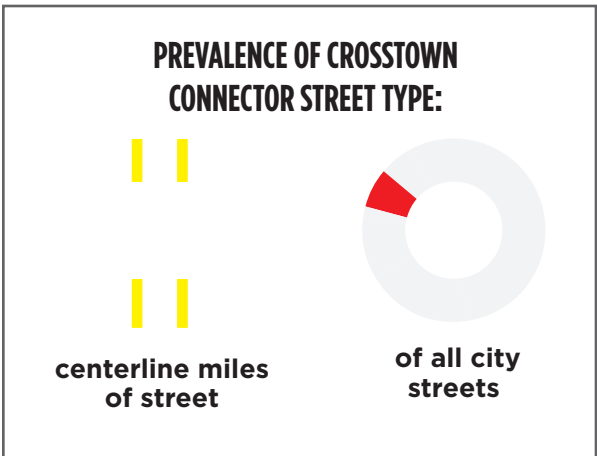
1. Vehicle lanes scaled to accommodate light truck traffic
2. Sidewalks
3. Sidewalks may be widened for use as multiuse paths
4. Curb cuts are common

Maker/Industrial streets are critical to the Grand Rapids economy. They are places of production and innovation. They may manufacture durable goods such as furniture or electronics, consumer goods such as beer, or intellectual goods such as media.

Uniquely, Maker/Industrial streets in Grand Rapids are often located next to residential areas or may have residential or retail uses interspersed with industrial, manufacturing, or warehouse uses. Maker/Industrial streets may be relatively isolated from other streets, may occur in small pockets among other street types, or may comprise an entire distinct district.

Maker/Industrial streets are often places of transition, as they have been for more than a century. Their character ranges from dynamic 24-hour districts to areas with more isolated warehousing or distribution uses.

These streets serve industrial corridors and are built to accommodate commercial trucks. While there may be fewer pedestrians and bicyclists here, these streets may also serve as through-routes for these users to adjacent land uses or connections between destinations.



Tree canopies and landscaping are important to soften the streetscape, reduce noise, and help manage stormwater.

Maker/Industrial streets often have relatively moderate traffic volumes. Because they are locations of significant employment, access via a variety of modes including transit, bicycle, and by foot is critically important. Traffic speeds are generally slow. Streets may have a higher proportion of larger vehicle traffic—in excess of 10% of total vehicle volumes. Given these numbers and the blind spots often present in large vehicles, it is important to provide separated protection for more vulnerable travelers like cyclists and pedestrians.

A subset of the Maker/Industrial street type is the Service street. Service streets typically are not the site of production activity. They may have a variety of different uses along them. Many of these uses do not face the street or are set far back from the street

edge. Service streets are the access point for larger retail or commercial properties or may be smaller streets connecting to larger Maker/Industrial streets.

EXAMPLE STREETS:

- » Wealthy Street SW from Garfield to Straight.
- » Oak Industrial Drive NE.
- » Cottage Grove SE.
- » Turner Avenue NW from Richmond to the city line.

ANTICIPATED AND DESIRED USES:

- » Large and small scale manufacturing and processing, distribution, and warehousing.
- » Other employment such as design, production, office, direct sales retail, or housing.
- » Modest pedestrian volumes.
- » Worker access via all potential modes.
- » Truck access, parking, and operations.

PRIORITY USERS:

- » **Freight and service vehicles.**
- » Workers and proprietors.
- » Customers and clients.

DESIGN OBJECTIVES:

- » Support and strengthen economic productivity and value.
- » Enable efficient industrial, commercial and production activities.
- » Connect workers to jobs and customers or clients to goods and services.
- » Increase safety and decrease opportunities for conflict.
- » Mitigate and minimize environmental impacts such as water runoff, noise, and vibrations.

TYPICAL DESIGN FEATURES AND TREATMENTS:

- » Lanes adequately wide to accommodate larger commercial vehicle travel and movement.
- » Center line may or may not be marked.
- » Larger block lengths are common.
- » Pedestrian crossings should be clearly marked.
- » Streets must provide sidewalks on at least one side. Sidewalks on both sides is preferred.
- » Streets may or may not have on-street parking. Parking may or may not be metered. Parking should be designed to accommodate trucks in addition to typical automobiles. This accommodation may include loading zones as well as restricted parking hours. Bicycle parking in the sidewalk zone of the street should be provided.
- » Transit service may be provided. Transit stops should be well lit and visible from many points.
- » Streets may have many wide curb cuts and driveways. Careful design is necessary to limit conflict between pedestrians and commercial vehicles to the extent possible.
- » Large canopy trees are desired to the extent practical.
- » Street and streetscape materials should be durable, given the presence of large and heavy vehicles.

TYPICAL/TARGET METRICS:

- » Vehicle volumes less than 5,000 vehicles per day
- » Vehicle speeds <25 MPH
- » Face-to-face of curb 36' to 58'



MODE EMPHASES

NW

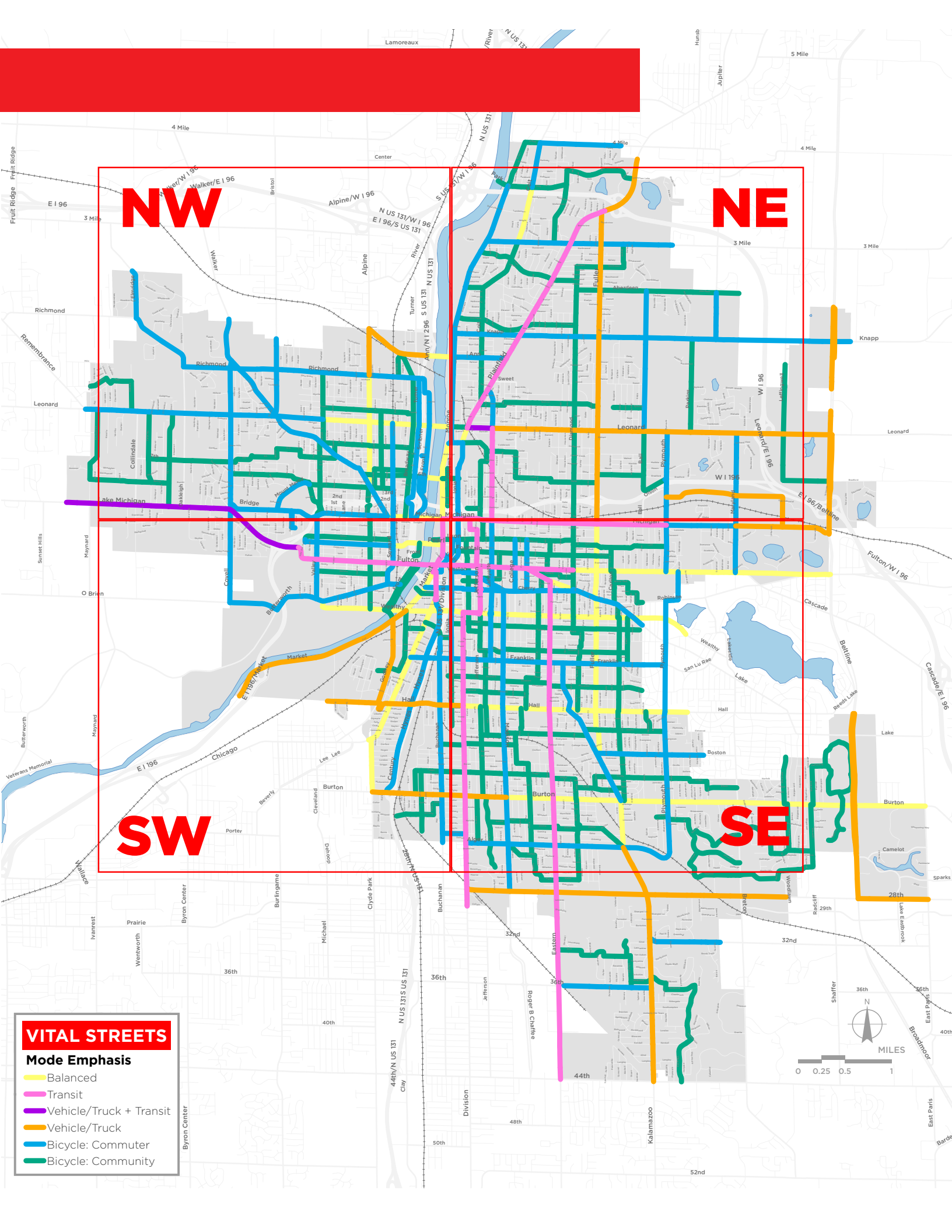
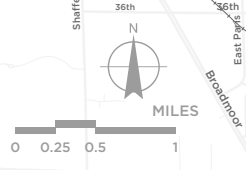
NE

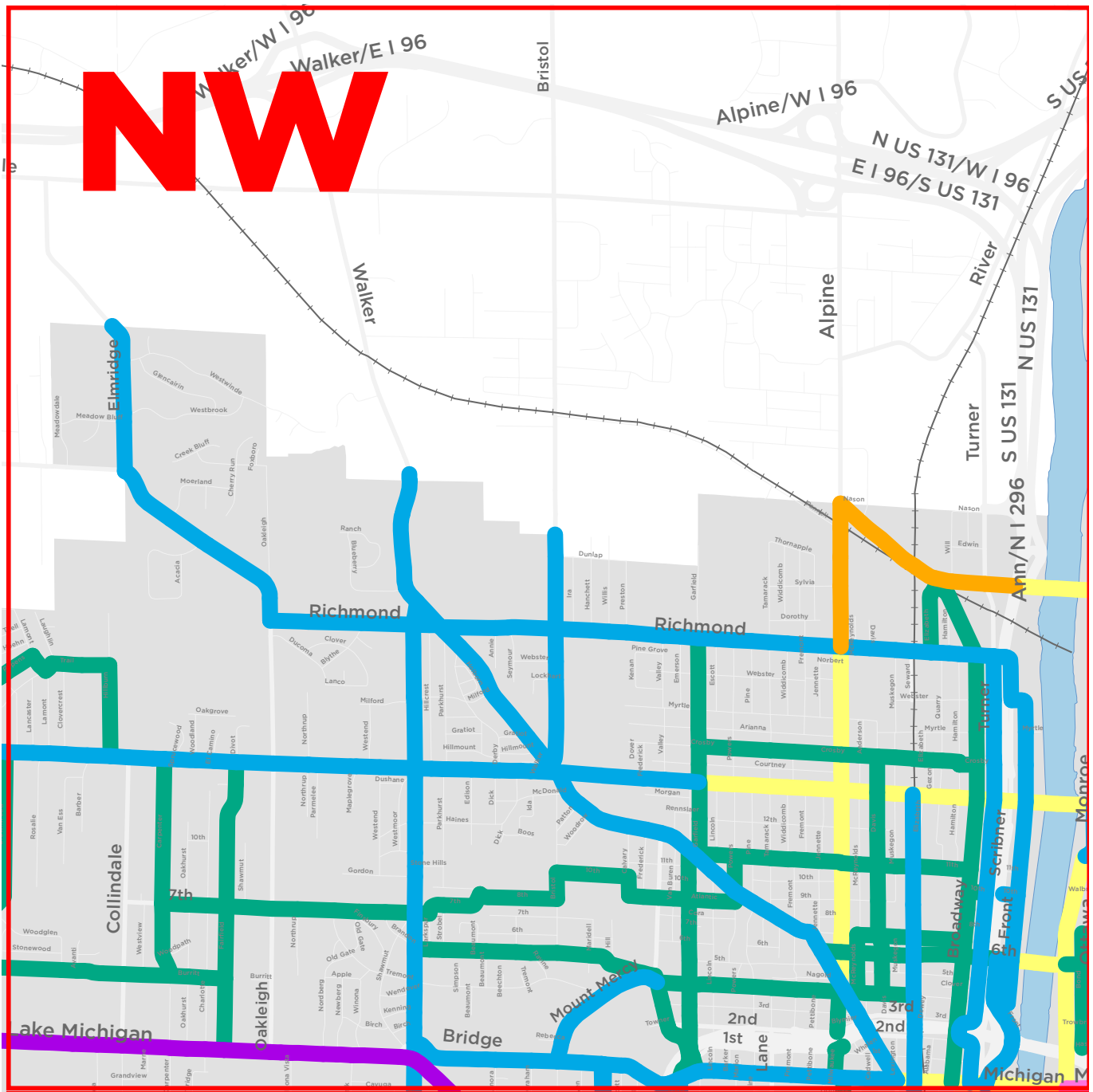
SW

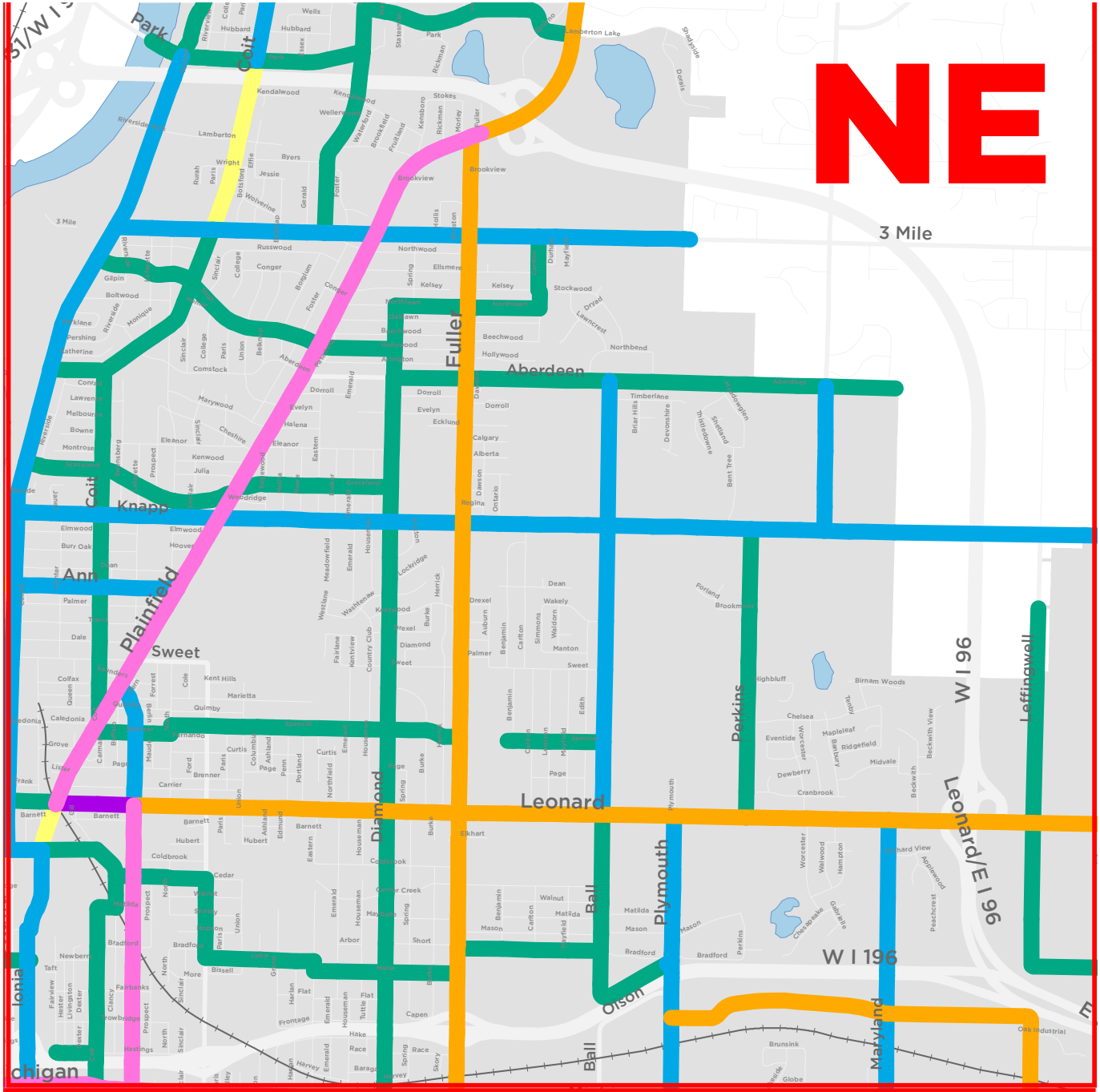
SE

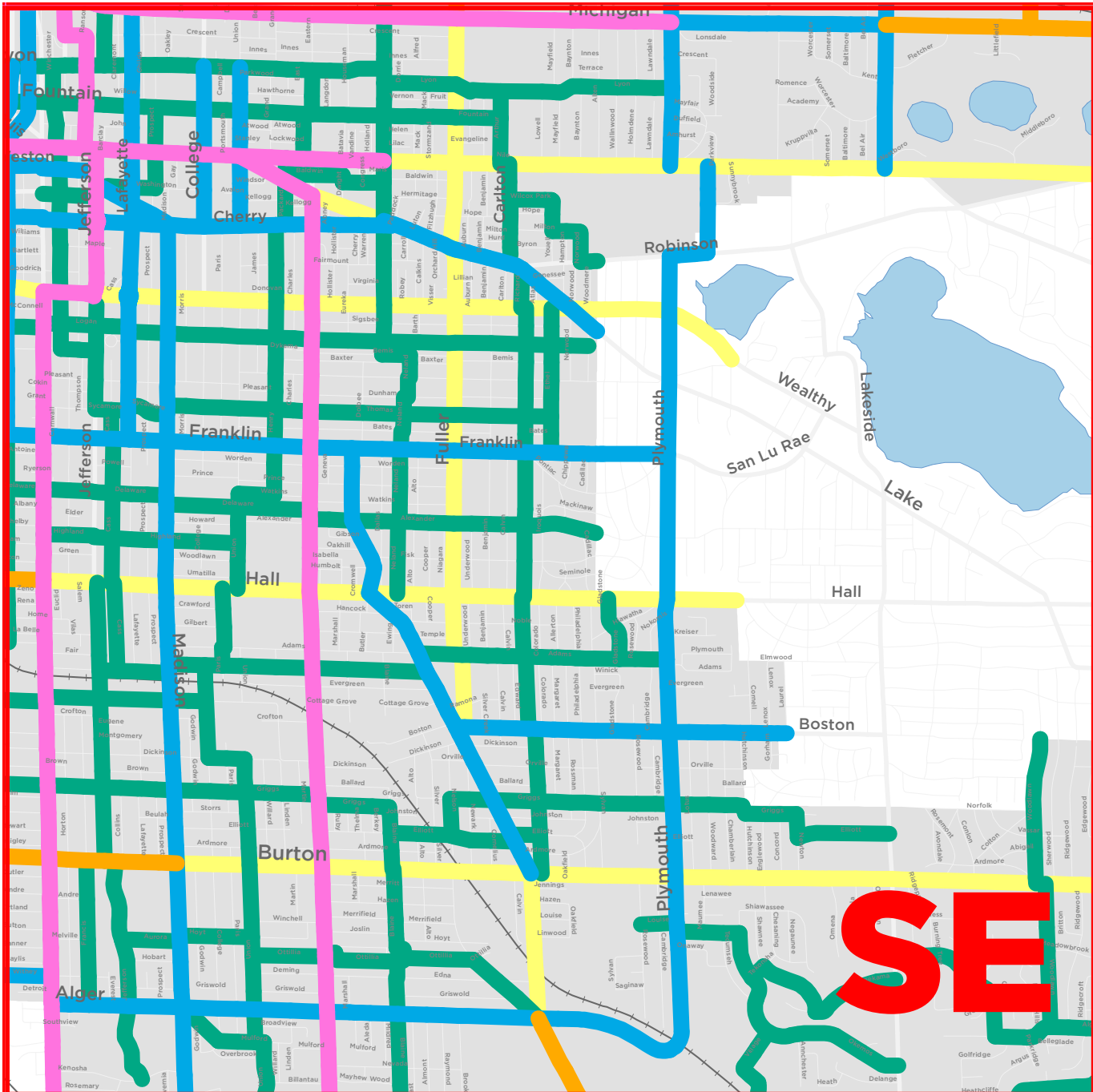
VITAL STREETS

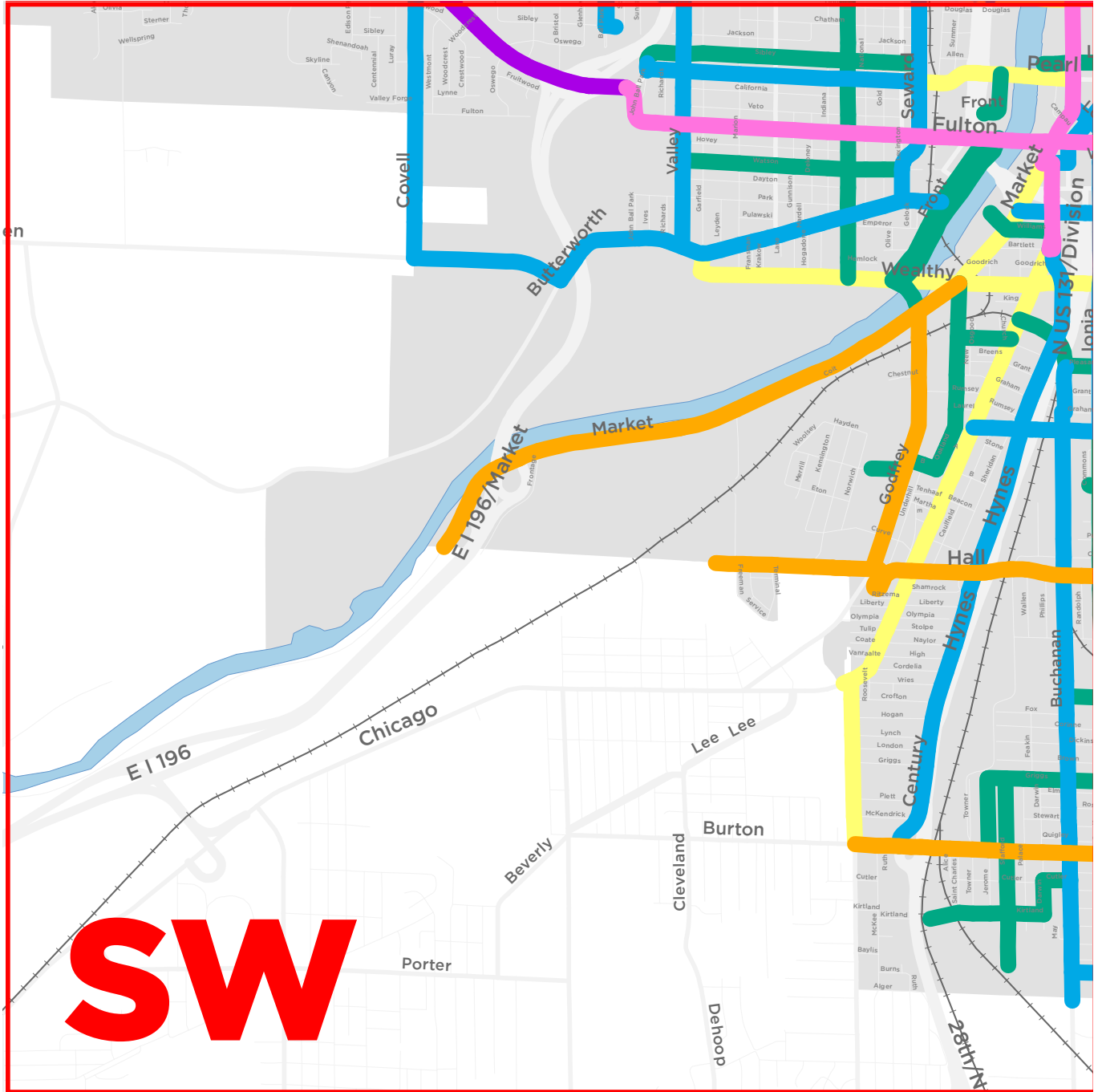
- Mode Emphasis**
- Balanced
 - Transit
 - Vehicle/Truck + Transit
 - Vehicle/Truck
 - Bicycle: Commuter
 - Bicycle: Community











All streets must be complete streets.

All streets must be complete streets. All streets must consider how to accommodate all modes of transportation. However, since each street has a finite amount of space, some streets will emphasize and encourage—through design—one mode over another while still recognizing that all modes will have occasional use. All streets must consider how to incorporate green stormwater management best practices. Modal overlays map which specific modes are emphasized.

Streets of all types must provide safe and accessible accommodation for pedestrians of all ages and abilities—both along the street and at street crossings.

“Accommodation” requires adequate space to facilitate and enhance pedestrian demands common for that street type. Because of their fundamental nature, some street types, such as Neighborhood Business and Urban Center streets, feature greater concentrations of pedestrians and thus provide a higher level of pedestrian accommodation. Accommodation generally is not met with a narrow strip of pavement scarcely wide enough for a single individual.

Neighborhood Business and Urban Center streets will generally have even wider sidewalks to accommodate groups of people walking abreast, space for cafes and window shopping, opportunities for public art, and places to sit and linger. These streets need to be treated more like economic engines and gathering places, not thoroughfares.

Balanced streets do not have a mode priority. Rather, they provide critical connections for all types of street users and no one mode should be prioritized. Balanced streets are areas where difficult design tradeoffs may need to be made to ensure safe and accessible facilities are provided for all users.

TRANSIT EMPHASIS



Transit emphasis is generally assigned to streets that carry premium transit services.

Examples include currently planned for bus rapid transit, streetcar service, and high frequency transit service. High frequency transit is generally defined as transit service every 15 minutes or better. Transit emphasis most commonly occurs on streets classified as Urban Center, Network Residential, Neighborhood Business, or Crosstown Connectors.

A limited number of streets are designated for transit emphasis. These are streets with high frequency transit service and/or streets where transit vehicles encounter congestion or delay, causing unreliable transit service.

Streets designated for Transit emphasis may moderately impact the flow of other traffic. These streets may be less appealing to bicyclists as well; however, with careful design bicycles and transit vehicles can share a street with quality and comfortable facilities for each. Pedestrian accommodation should not be compromised on Transit emphasis streets; stop improvements may be needed to enhance pedestrian access to and from transit stops.

Design treatments that emphasize transit include relocated transit stops, enhanced stop amenities, smart signal operations, bus bulbs, queue jump lanes at intersections, and/or dedicated transit lanes.

FREIGHT AND VEHICLE EMPHASIS



Although all streets must be complete streets, the network must continue to provide for the efficient movement of vehicles and freight.

Some streets in the network are explicitly designated to emphasize freight and vehicle movement. These streets must still be designed to safely accommodate pedestrians, bicyclists, and all other travelers.

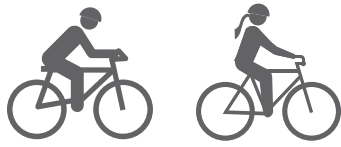
Grand Rapids has an adopted truck route plan. All streets designated as truck routes must be designed to accommodate at least the occasional large vehicle. However, some streets may be specifically designated for a higher proportion of freight vehicles. Additionally, as the center of the regional economy, Grand Rapids must anticipate and accommodate the efficient movement of regional vehicle travel. Within the city are several MDOT streets designated for Freight and Trucking. To ensure the successful movement of freight and the continued need for efficient vehicle movement, some streets are designated with a Freight and Vehicle emphasis.

As with all other streets, designation as Vehicle and Vehicle emphasis does not mean that other modes can be unacceptably compromised. Safety for all potential users remains paramount. Additionally, these streets, as with all streets, must continue to serve and support their abutting land uses. However, by their nature, Freight and Vehicle emphasis streets may be less attractive to pedestrians and bicyclists who have other route alternatives.

Unless specifically designated with another of the overlays, both Maker/Industrial streets and Crosstown Connectors have an inherent emphasis to safely and efficiently move freight vehicles and automobiles. The Freight and Vehicle emphasis overlay may also be applied to Network Residential, Neighborhood Business, and Urban Center street types.

Among other design approaches, streets overlaid with a Freight and Vehicle emphasis may have signal controlled intersections or free flowing roundabouts, wider curb radii, long signal cycles, long block lengths and many curbside restrictions. Depending on the underlying context of the street, Freight and Vehicle emphasis streets may either have a high number of access points, such as on 28th Street, or very limited access, such as on East Beltline.

COMMUTER BICYCLE EMPHASIS



Commuter Bicycle emphasis streets are generally oriented towards more experienced bicyclists, however novice cyclists should be anticipated and accommodated on these streets.

Certain streets may be designated as critical spines in the larger regional bicycle network. These streets are generally continuous corridors that form a longer distance network.

Commuter Bicycle emphasis most commonly occurs on a subset of Network Residential, Neighborhood Business, and Urban Center and Crosstown Connector streets. However, it may also be applied on Link Residential and Maker/Industrial streets. They generally connect to the downtown, major employment areas, and other destinations.

Streets designated for Commuter Bicycle emphasis generally provide a dedicated bicycle facility such as an on-street bike lane or off-street trail or cycle track. Given the relatively narrow width of many street rights-of-way in Grand Rapids, providing this level of bicycle accommodation may require the removal of on-street parking, the narrowing or conversion of one or more travel lanes, or the narrowing of sidewalk zone features such as parkways. The clear pedestrian zone of the sidewalk must not be narrowed below minimum thresholds.

Selecting the design treatment and/or allocation of the street right of way to accommodate Commuter Bicycle facilities depends significantly on the underlying street type. For example, for a NB street, removing parking may be unacceptable, but narrowing travel lanes may be okay. Meanwhile, for a Maker/Industrial street, the case may be the opposite.

COMMUNITY BICYCLE EMPHASIS



Streets designated for Community Bicycle Emphasis are designed to accommodate casual bicyclists.

Community bicyclists may be children, seniors, less experienced or less confident adults, or any person on a bicycle desiring a more social and less stressful accommodation.

Community Bicycle emphasis streets should be connected with one another to form a network. The Community Bicycle routes may be marginally more circuitous because they weave through and connect the many neighborhoods of the city. Together with the Commuter Bicycle network, Community Bicycle emphasis streets should connect to common community destinations such as neighborhood business districts, schools, libraries, parks, and recreation centers.

Community Bicycle emphasis is generally applied to lower stress streets—streets with lower volumes of traffic and/or lower typical travel speeds. Thus, Community Bicycle emphasis is most common on Link Residential streets, although it may be applied to any street type.

The bicycle facility should be scaled to ensure a comfortable experience for a casual bicyclist. That might mean a relatively low-level facility on a quiet neighborhood residential street and a higher level facility, such as a protected lane, on higher traffic volume streets. Typical design enhancements added to streets designated as Community Bicycle Emphasis include traffic calming and/or traffic diverting features, increased landscaping and stormwater management features, and special signage.

