Tech Memo 1 – Existing Conditions

Introduction

Walk and Roll Westland, the City's Pedestrian and Bicycle Safety Action Plan identifies and prioritizes potential future non-motorized infrastructure projects for the City of Westland. The Plan will, through technical analysis and public input, present a feasible set of projects aimed at improving bicycle and non-motorized connectivity, safety, and comfort for Westland residents. An implementation plan will help guide the City of Westland through the design and engineering process and will include information such as total capital cost, right-of-way needs, and design options.

The City of Westland is a suburb of Detroit, located in Wayne County, Michigan. It is one of the larger cities in the Detroit Metro area, with a population of more than 80,000. Westland is well connected to the surrounding suburban communities through the major roadway system, but few non-motorized connections exist. Westland consists of a development pattern that is typical of postwar suburbs with gridded residential streets interspersed between larger arterial roads. Most people in Westland choose to travel by car, but a growing number of residents are looking to complete their shopping, medical, school, social, and other daily trips using non-motorized transportation modes. However, the current conditions in Westland are not entirely favorable to folks looking to walk or bike due to the lack of safe and comfortable non-motorized infrastructure.

Plan Goals

The Pedestrian and Bicycle Safety Action Plan will develop concepts for the non-motorized projects that are most needed in the City and which could be implemented over the next five to ten years. The overall goal of the Plan is to better connect the City of Westland, improve safety conditions, and encourage residents to bike and walk more often. The projects identified in this Plan will be those that connect the areas of the City most in need of non-motorized connections, will help connect to the Rouge River trails on the north and south sides of the City, and will provide the best access to popular destinations in Westland. Through the planning process, the community, stakeholders, and City staff will be engaged and able to provide input on recommended facilities.

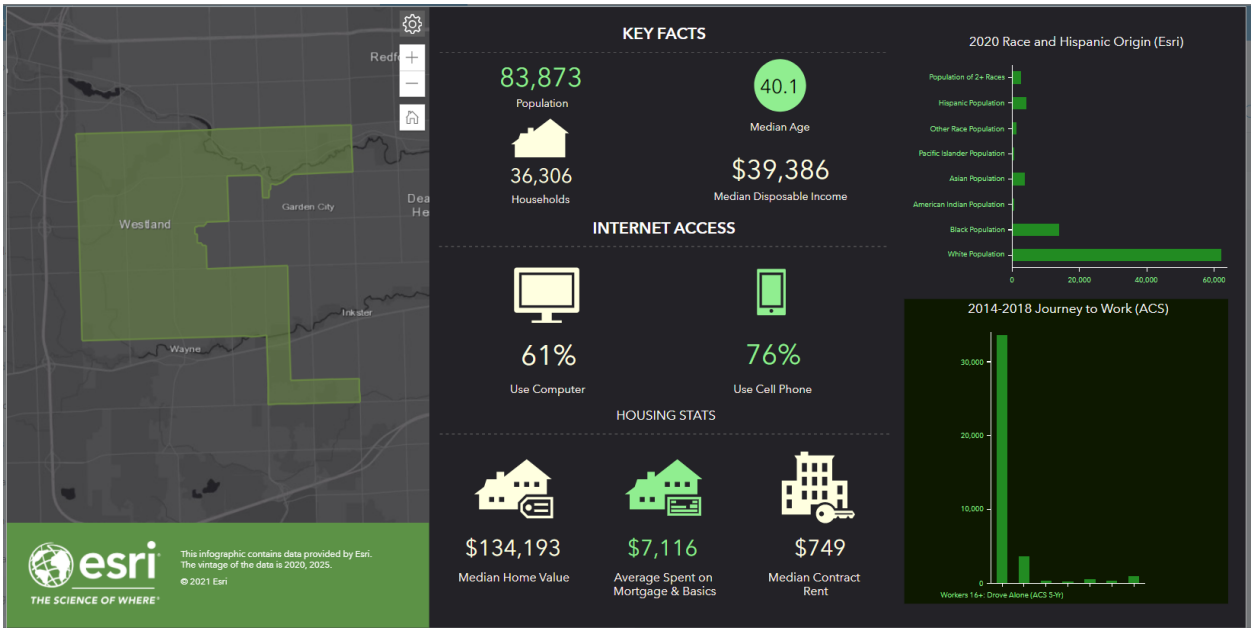
Demographic Conditions

The existing demographic in Westland provide valuable insight into the transportation needs of the community and can help determine where in the City new non-motorized facilities would be most valuable. An analysis of the population, employment, equity areas, and demand areas was completed and mapped for the study area.

Westland Demographic Stats

The city of Westland, approximately 18 miles away from downtown Detroit, is located along the western boundary of Wayne County, MI. With a population of just over 83,000, Westland's median age of 40.1 is roughly 2 years older than that of Wayne County at 38.1. Household size in Westland is 2.3 persons per household, which not only is smaller than Wayne County at 2.5 but is also smaller than Michigan and US averages. Compared to Wayne County, Westland is generally less diverse according to race, even though on average it compares rather closely to Michigan averages. Median household income and median property values are slightly higher than the average Wayne County statistics. Housing stock in the area is primarily that which was built between 1950 and 1980, with little development in the area seen in the last 10 years. According to ESRI Business Analyst, the typical resident types in Westland are married couples with younger children, with some higher-level education, generally in the services, professional, and administrative industries. Figure 1 shows some general demographic stats for the City of Westland.

Figure 1: City of Westland Demographics

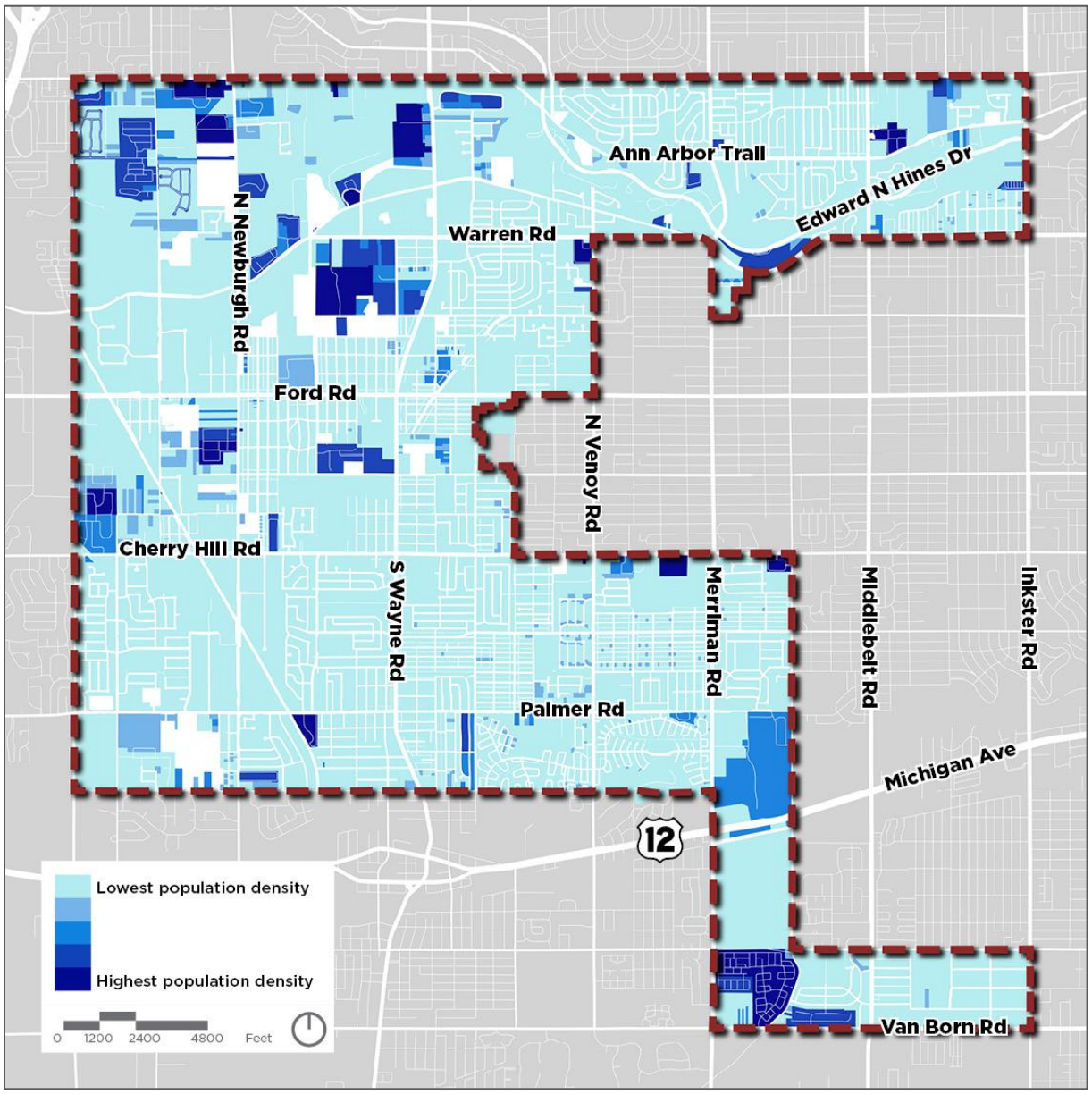


Source: ESRI Business Analyst

Population Density

Westland's population centers cover all corners of the community. Of the approximately 83,000 residents in the City of Westland, the pockets of density are located around the City in multi-family housing complexes, as well as various denser neighborhoods with generally smaller building footprints and more compact subdivision layouts. Most of the multi-family housing in Westland is located north of Ford Rd along or off of Wayne Rd. Other denser areas of population along Cherry Hill Rd and Palmer Rd are typically newer subdivisions and/or multifamily complexes. In the southern portion of Westland, a mobile-home park also accounts for a denser cluster within city limits. Figure 2 shows the population density in Westland.

Figure 2: Population Density

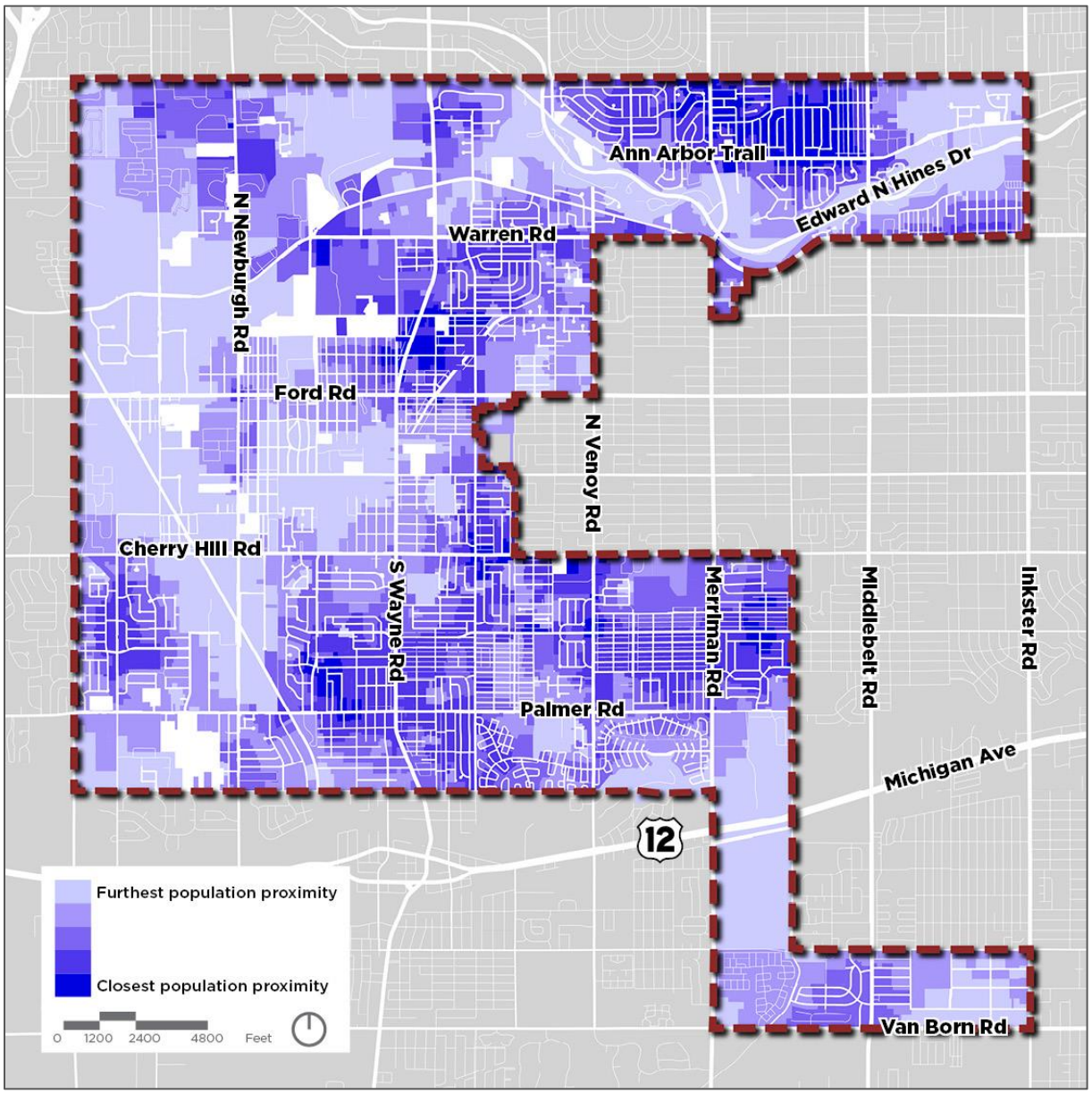


Source: US Census Bureau, ACS 2019

Population Proximity

Not only is population density important to analyze, but as it relates to this mobility study, seeing how the population currently is connected to one another also plays an important role. Figure 3 depicts population centers, their 10-minute proximity to other centers of population, and then scores their access. The metric not only considers current pedestrian and bicycle infrastructure, but proximity to public transit as well. The output shows that older neighborhoods in the northern portion of the city and between Cherry Hill and Palmer are where residents are best connected to each other. Residents around current employment centers by Wayne and Warren are also well connected.

Figure 3: Population Proximity



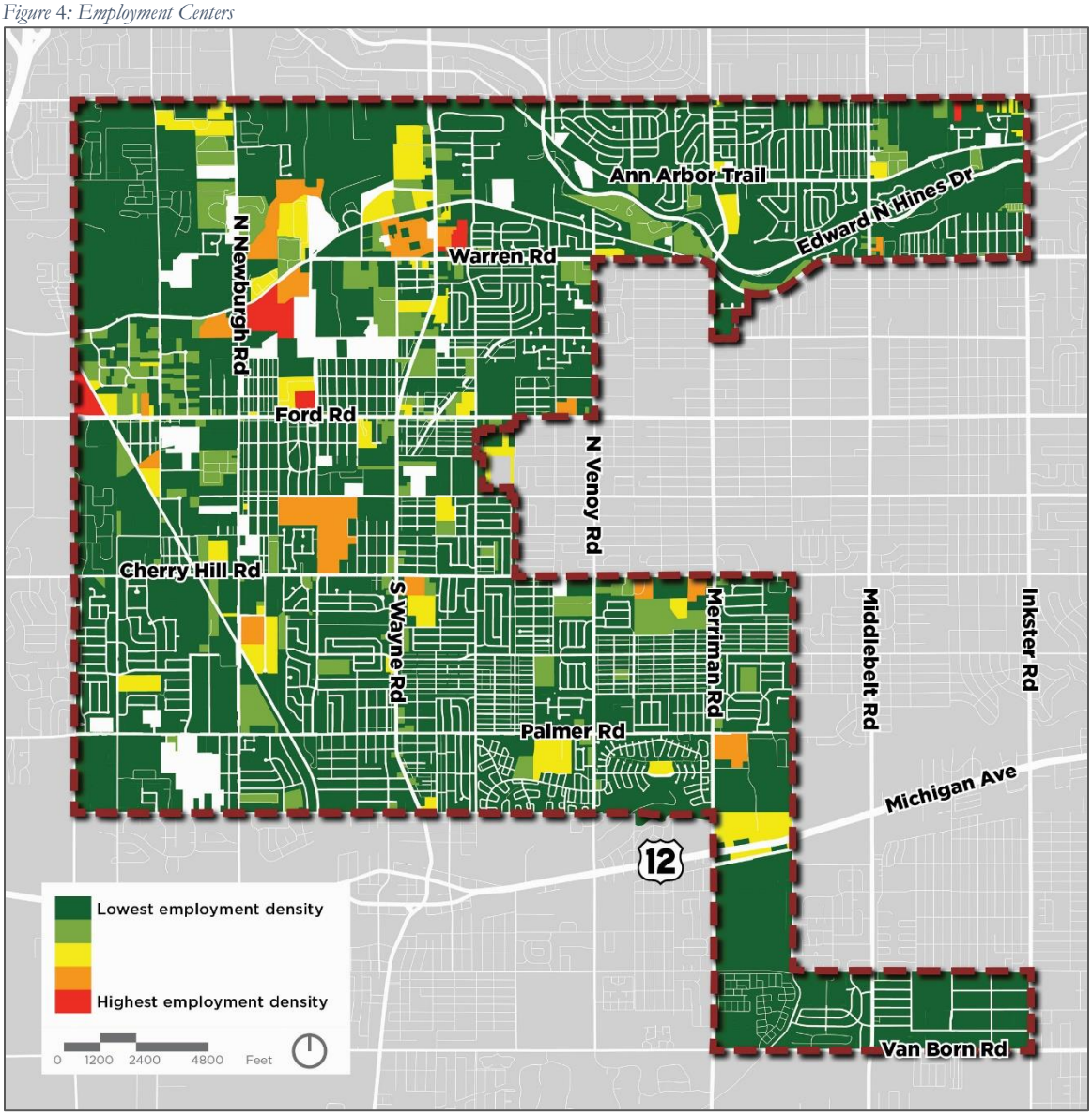
Source: Urban Footprint

Employment

Westland is a community known more by its neighborhoods than being a large employment center. Of the communities in the SEMCOG region, Westland ranks in the middle for total jobs (27,207) and job density (2.08 per acre). Jobs are spread throughout the community and range between 500 and 1,500 total jobs in most of the Transportation Analysis Zones (TAZs) in the city. There are two employment hot spots in Westland and both are in the northwestern portion of town. The larger of the two is around the Westland Shopping Center on Warren Road at Wayne Road. This area includes the mall, some big box stores, City Hall, and local businesses. The other hot spot is at Ford Road and Hix Road, at the Westland city border, and is another collection of big box stores and local businesses. Some of these businesses are in Canton Township and some in Westland.

Figure *4* shows how population density ranges in the City of Westland.

Figure 4: Employment Centers



Source: UrbanFootprint

Areas of Equity and Demand

In order to ensure that the geographic areas that are most in need of walking and biking facilities are targeted for new non-motorized infrastructure, programs, and planning, SEMCOG performed a set of analyses to identify equity area concentrations and demand areas in the region. More information about this analysis can be found on SEMCOG's website, here: https://semcog.org/bicycle-and-pedestrian-mobility

- ***Concentration of Equity Populations***
  SEMCOG identified populations (and areas) of the region through an equity lens based on socioeconomic factors that may impact their mobility. This includes the proportion of children, low-income populations, minority populations, seniors, and transit-dependent households.

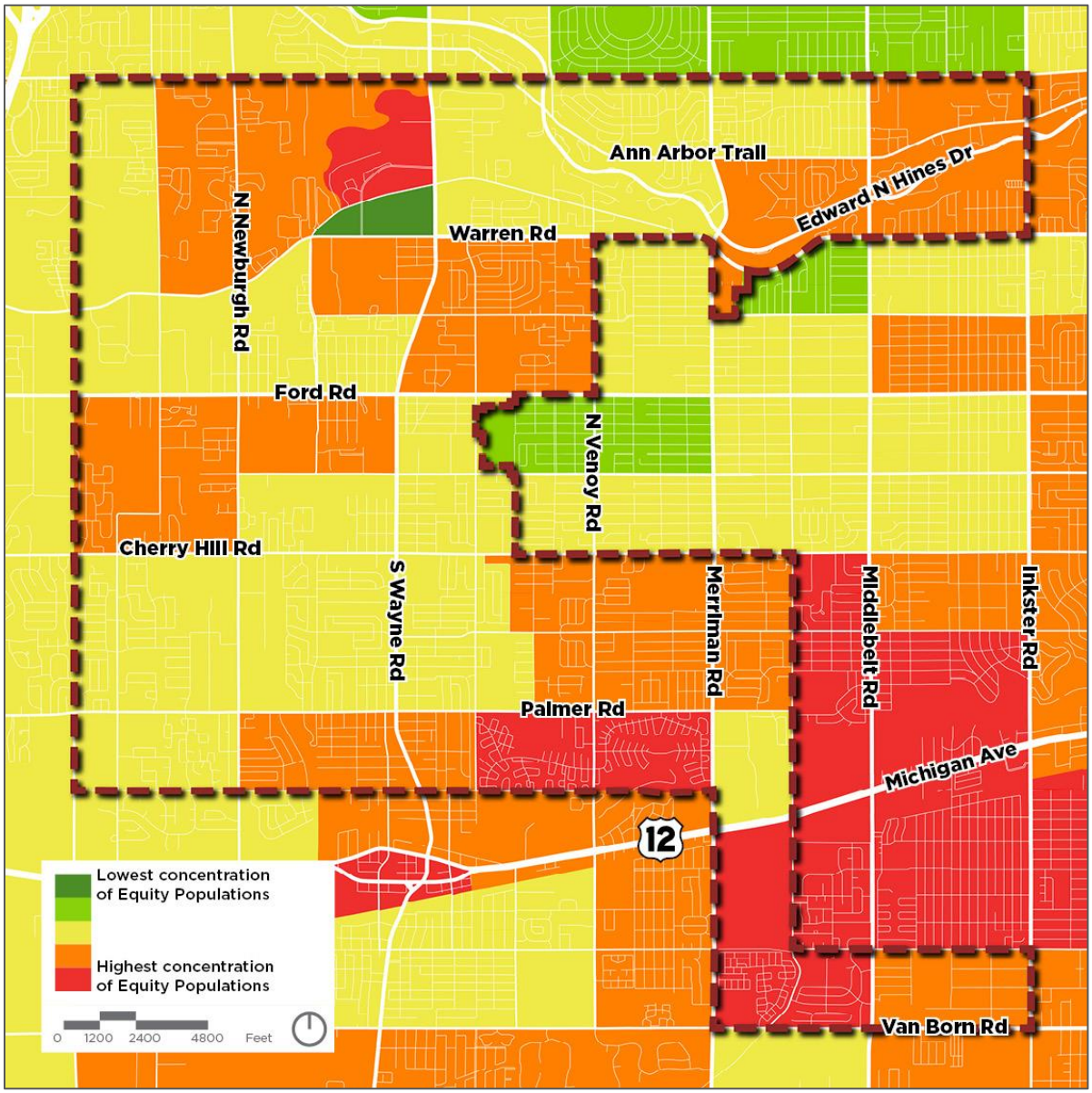
- ***Bicycle and Pedestrian Demand Areas***
  Walking and biking infrastructure can lead to many positive benefits for a community, and this analysis can be used to ensure that the system is accessible for people of all ages, abilities, and backgrounds. The analysis is based on the connectivity and demand for short trips in specific areas of each community.

These data were consulted to better understand the areas in Westland that are in greatest need for walking and biking infrastructure. The analysis categorizes locations by Very High, High, Moderate, and Low. The Very High and High area are deemed Equity Emphasis Areas.

Equity Area Analysis

The purpose of the equity analysis is to determine where there are high concentrations of residents who rely more heavily on walking and biking. Within Westland, there are a few areas of High and Very High concentrations of equity populations. The area north of City Hall has a large area of Very High equity concentration. The Norwayne Neighborhood and the area south of Michigan Avenue also consist of Very High equity populations. The other Equity Emphasis Areas in Westland consist of High equity concentrations. Nearly all of these areas have limited access to bicycle infrastructure, however most have access to pedestrian infrastructure. Figure 5 shows the results of the Equity Analysis in Westland.

Figure 5: Equity Areas

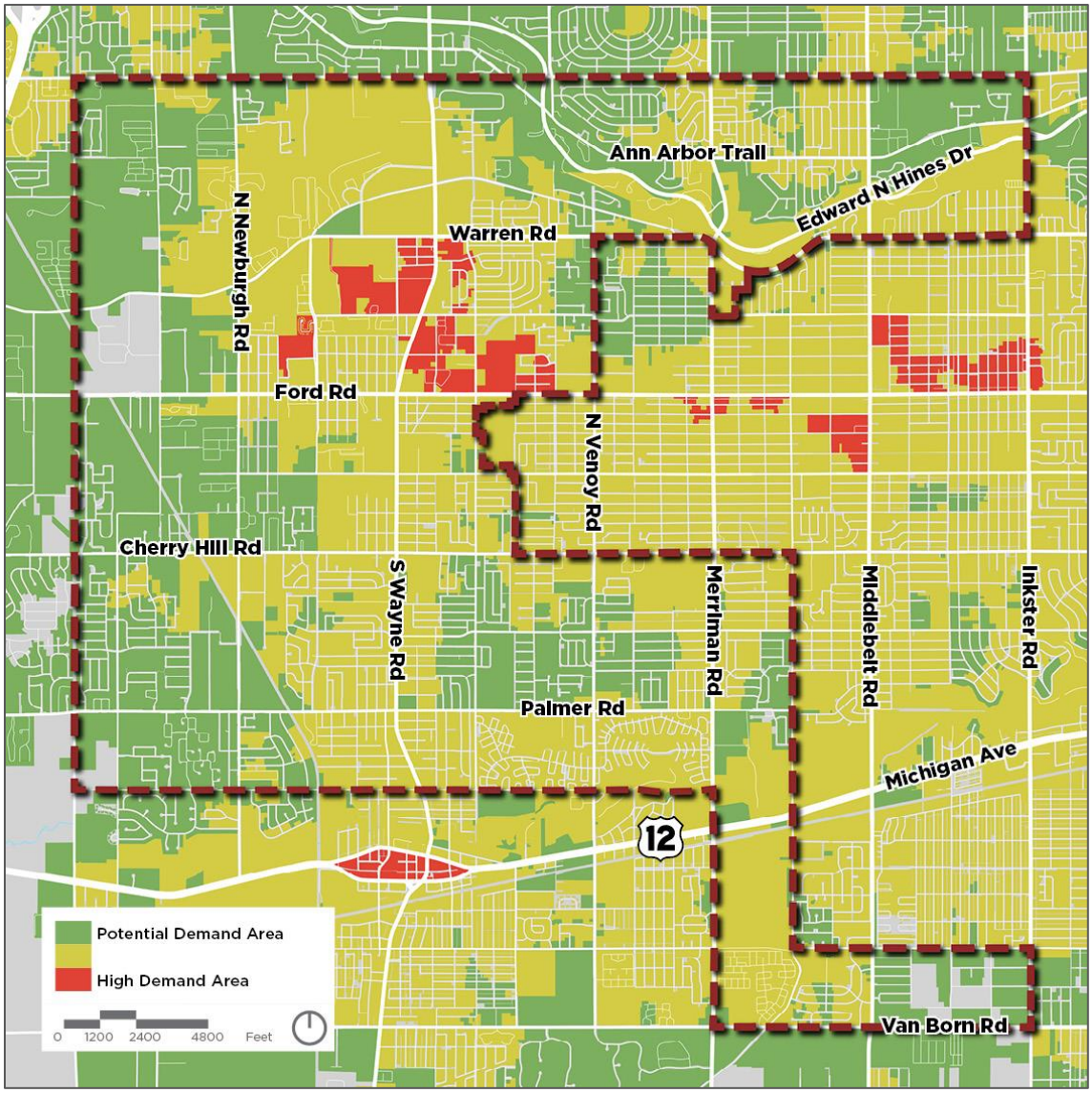


Source: SEMCOG

Areas of Demand

The purpose of the demand analysis area analysis is to better understand which areas are most likely to support walking and biking infrastructure. These areas are based on trip demand, specifically the demand for short trips. High Demand Areas have the highest demand for short trips and the most likely to serve those trips with walking and biking. These areas typically have greater right-of-way competition and should receive planning, programming, and policy support to encourage more non-motorized trip making. Moderate Demand Areas are typically adjacent to the High Demand Areas and are primarily residential. These areas can support walking and biking, but driving is still necessary for many trips. Potential Demand Areas are the least densely populated of the analysis areas, but could support biking and walking with additional infrastructure, including additional roadway connections. Figure 6 shows the demand for walking and biking in the City.

Figure 6: Short Trip Demand Areas



Source: SEMCOG

In Westland, much of the City is categorized as either a Moderate or High Demand area. There is an uninterrupted corridor of Moderate and High Demand along Wayne Road from Glenwood Rd to the northern city border (Joy Road). Many of the residential areas on the east side of Westland are also Moderate Demand Areas. The west side of Westland consists more of Potential Demand Areas, likely due to the reduced population and development density in the area.

Few areas of Westland are lacking access to pedestrian infrastructure, as shown in Figure 10. A few residential areas on either side of Wayne Road do not have sidewalks, as well as much of the Norwayne neighborhood. Sidewalks are more consistently absent in the Potential Demand Areas on the west side of the City. However, nearly all of Westland is over a half mile from bicycle infrastructure. A small portion in the northeast portion of the city, as well as a section north of Glenwood Ave are within a half mile of trails along the Upper and Lower Rouge Rivers.

Summary of Findings

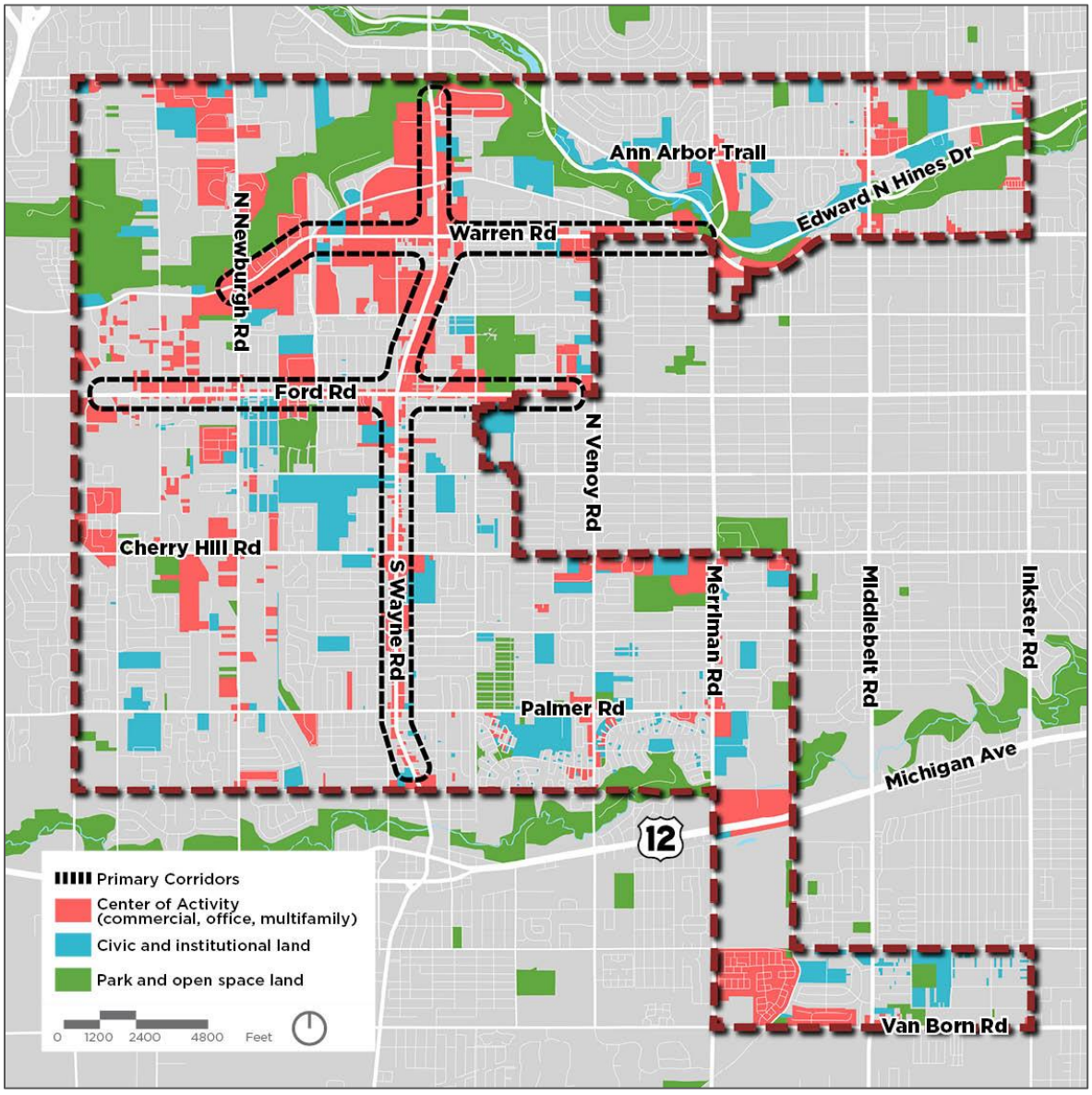
Areas in Westland with high population density are scattered throughout the City. The two areas of highest density are located near Wayne and Warren Roads, near City Hall and at Merriman and Van Born Roads. The older developed areas of Westland are also more connected to one another mainly due to a higher overall housing density and land use standards that focused on developing a street grid. This allows residents to move through the city using all modes more easily when compared to newer developments. Areas with high equity population concentration match up with the many of the areas with either a Moderate of High Demand for bike and pedestrian trips.

Land Use

Activity Centers

The main activity centers in Westland follow some of the more prominent corridors within the city. The activity centers not only are denser with multifamily and commercial uses, but also various institutional and open/natural space. There are 3 primary corridors that drive activity in the area, with various other intersections and minor corridors following suit. Warren Rd between Newburgh and Wayne is a corridor that not only contains multifamily, various services, and amenities, but also contains the Westland Shopping Center. Wayne Rd from the northern to the southern portion is a heavily traveled commercial corridor as well, that intersects with Ford Rd, another of Westland most traveled roads.

Figure 7: Activity Centers



Source: UrbanFootprint

Parks

Park and open space in Westland is primarily concentrated to the northern and southern boundary of the city. The Hines Park area along the Middle Branch of the Rouge River which contains the Perrin Recreation Area, Sherwood Recreation Area, Hines Park, Elm Grove Recreation Area, and the Nankin Mills Recreation Area serves Westland's northern residents. The Lower Rouge Parkway area contains access to trails and parks outside of city limits to the south. Neighborhood parks and school grounds serve Westland's more centrally located residents, with Central City Park being the largest.

Figure 8: Parks and Open Space

Source: SEMCOG

Summary of Conditions

Westland has very opportunistic land uses today, as major commercial corridors connect regional open space, with a concentration of multifamily complexes, older residential neighborhoods, public/private schools in between. Just outside of city limits, I-275 and I-96 offer local and regional access to additional amenities in Wayne County and beyond. Strong connections to these diverse set of land uses is possible using the existing vehicle network. However, some residents may be disconnected from the greater community because they lack access to a vehicle and may not feel safe walking or biking without dedicated routes.

Transportation

As one of the larger cities in Metro Detroit, Westland has an extensive road network that includes large arterial roads, state trunkline road, and local neighborhood streets. Many of the neighborhoods in Westland are highly connected to the arterial roadway system and offer redundancy to the system on slower speed streets. These streets area present an opportunity for low speed, low stress non-motorized focused routes that can offer connections to much of the City. Much of Westland is auto oriented with few options for bikes to travel in their own space. Sidewalks are found throughout the city, however crossing the large arterial streets can be difficult, uncomfortable, and unsafe.

Existing Transportation Network

The existing transportation network in Westland consists of state owned, county owned, and locally owned roadways which provide the backbone of the transportation system. The Suburban Mobility Authority for Regional Transportation (SMART) transit routes travel through the City providing essential bus service to residents and employees. Additionally, sidewalks can be found through much of Westland. These facilities make up the transportation network but could be connected better to allow for a more efficient system.

Existing Non-Motorized Facilities

Bike Facilities

Westland currently does not have any on-street bicycle facilities. However, the Hines Drive shared-use path travels through Westland between Joy Road and Inkster Road. This pathway is part of a larger trail that extends into Dearborn. Plans for additional connections to the Upper Rouge River parks system is in process now and may include feeder non-motorized route connecting to Hines Drive. A bike lane is planned for implementation on Wildwood Avenue, extending from Warren Rd to Glenwood Rd. This will be the City's first bike lane and part of a larger bicycle and non-motorized system in the community. Figure 9 shows the location of the existing and planned bike facilities in Westland and the surrounding communities.

Figure 9: Non-Motorized Facilities

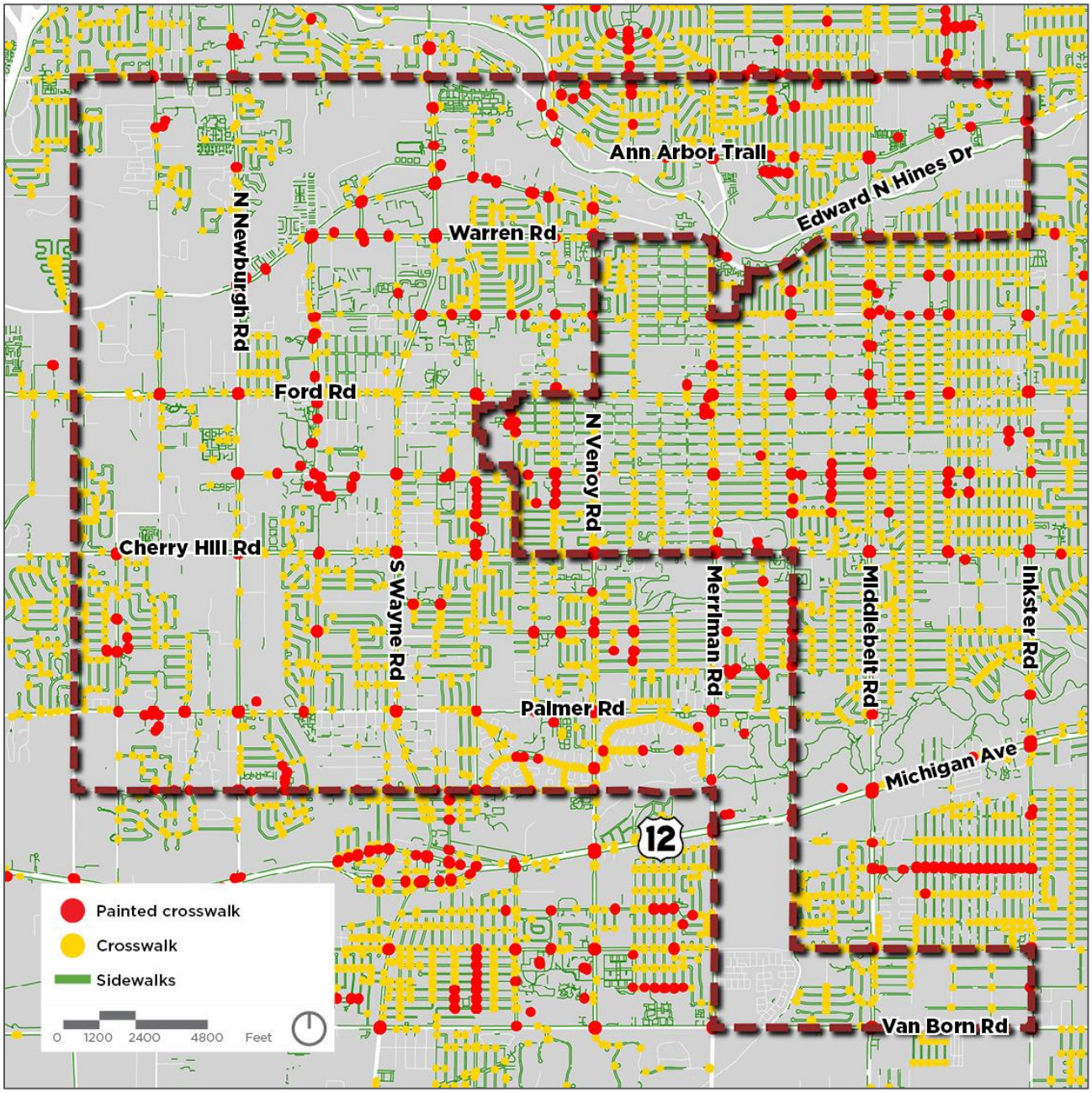
Source: SEMCOG

Two kayak launch areas are planned for the Lower Branch of the Rouge River. One will be located at Venoy Rd and the other at Merriman Rd and will be directly accessible by a planned non-motorized pathway along the Lower Branch of the Rouge River. The site along Venoy Rd would be located in Wayne, while the site accessible from Merriman Rd would be located in Westland.

Sidewalks and Crosswalks

Most of Westland's streets have sidewalks. As most of the neighborhoods in Westland were constructed in the 1950s prior to widespread automobile use, sidewalks were essential to the mobility of the community. Many of the neighborhood streets are arranged in a grid or loose grid pattern that improves pedestrian connectivity in the City, as shown in Figure 10. At many of the large intersections around the City of Westland, there are marked crosswalks to improve pedestrian visibility. However, there are several major intersections lacking crossing infrastructure including Wayne Road at Ford Road, Avondale Avenue and Wildwood Street, and at Ford Road and Central City Parkway. Improving crossing conditions at all intersections and adding additional pedestrian access points will help improve safety, comfort, and ease of travel for all pedestrians.

Figure 10: Sidewalks and Crosswalks

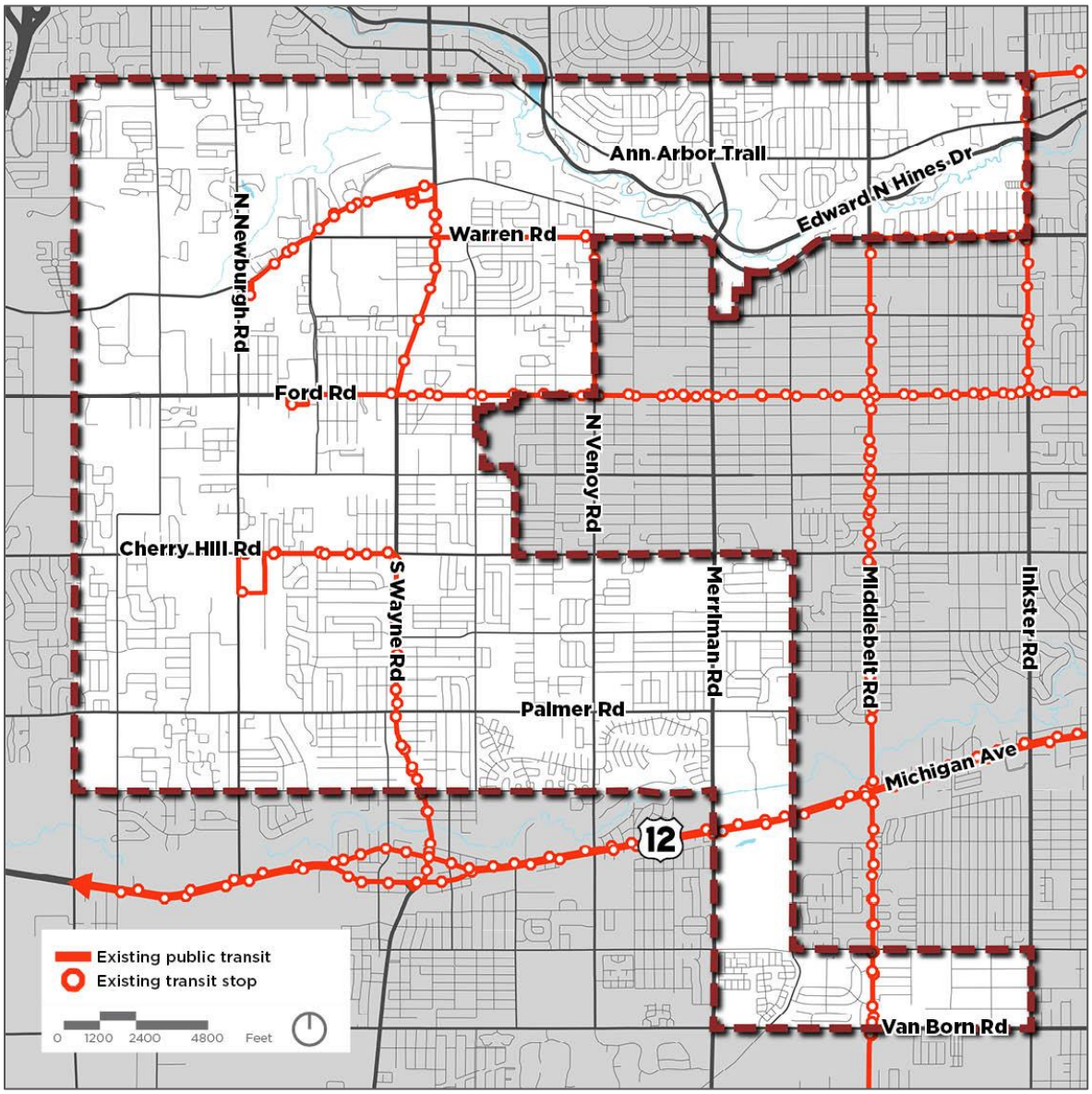


Source: SEMCOG

Existing Transit

The Suburban Mobility Authority for Regional Transportation (SMART) operates four routes in the City of Westland, as well as regional demand response paratransit service. Route 250 – Ford Road, Route 255 – Ford Road Express, Route 200 – Michigan Avenue Local, and Route 261 – FAST Michigan all provide service to the community. These routes travel along the state trunklines in Westland, Ford Road and Michigan Avenue. Transit stops in Westland average between 10 and 50 boardings and alightings per stop. The highest ridership stops in the City are located at Newburgh Rd and Warren Rd (terminus of Route 250), Ford Rd and Central City Pkwy (Route 255 terminus, at Cherry Hill Rd and Newburgh Rd (terminus of Route 200), and at Merriman Rd and Michigan Ave (FAST Michigan). Westland's transit routes are shown in Figure 11.

Figure 11: Existing Public Transit



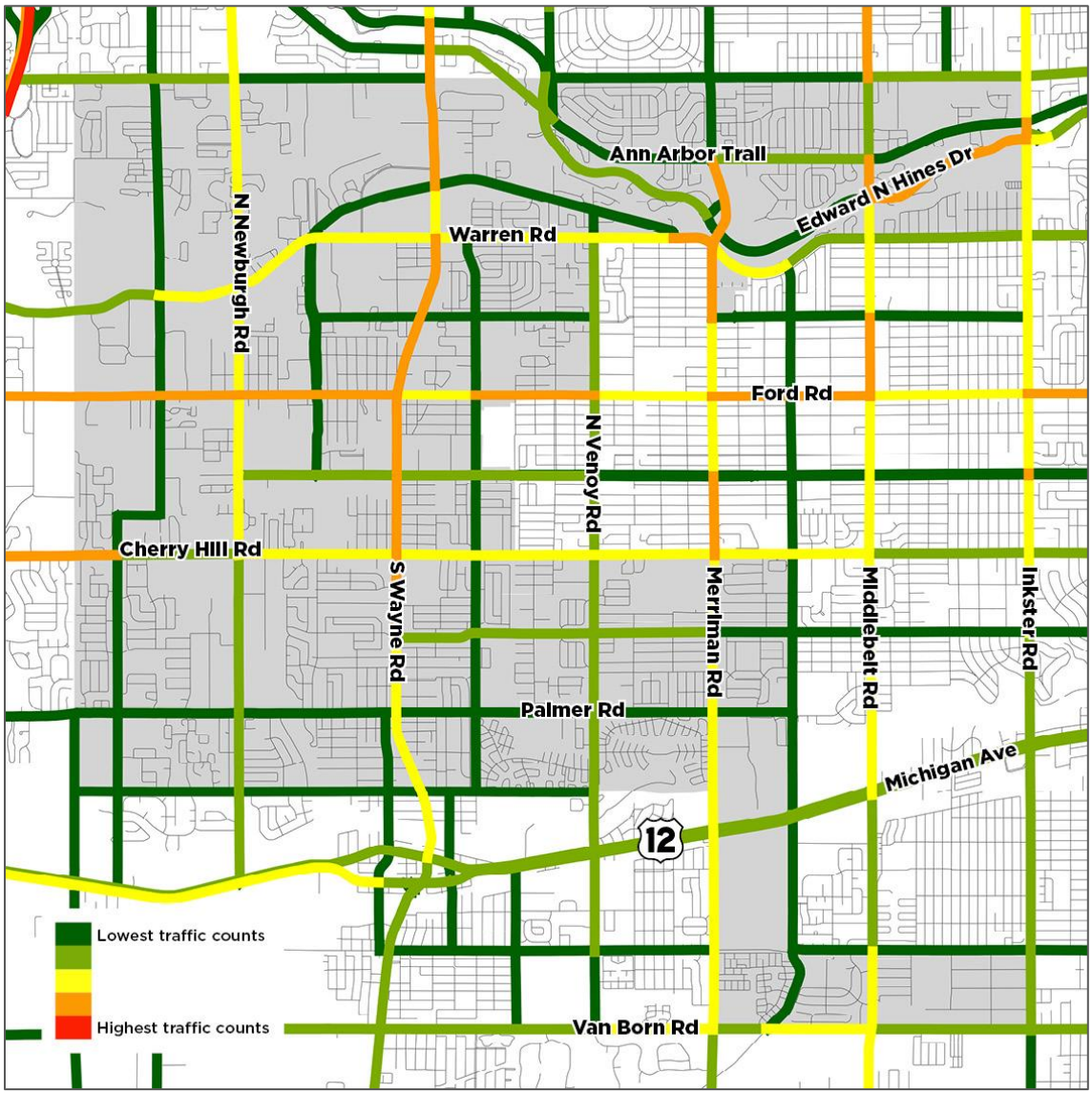
Source: SMART

Traffic Volume

Average Annual Daily Traffic on the major Westland city streets varies from 2,500 vehicles per day to over 46,000 vehicles per day. Ford Road, Warren Road, Wayne Road, Merriman Road, and Cherry Hill Road all carry about 30,000 vehicles per day. Newburgh Road is another high utilization road with over 20,000 vehicles per day using the street. Hines Drive and Middle Belt Road carry over 46,000 vehicles per day. Most of these streets run north to south and travelers are seeking access to the highways in the area (I-94 and I-96). Figure 12 shows the traffic levels on Westland streets.

The remaining streets in Westland carry less than 15,000 vehicles per day, with many carrying 10,000 or less on average. Hix Road, Wildwood Avenue, Glenwood Avenue, Joy Road, and Henry Ruff Road may all be potential candidates for on-street bicycle routes or infrastructure that can carry riders from border to border.

Figure 12: Traffic Volume



Source: SEMCOG

Summary of Conditions

Westland's existing transportation and development patterns has challenges in providing safe and comfortable areas for non-motorized travelers due to the large arterial streets that cross the City. However, the local, neighborhood streets provide a great opportunity to add low street bicycle routes through Westland. The availability of SMART transit service, the planned facilities in Garden City and other nearby communities, and the regional trail network to the north and south of the City are other assets that can be connected to with future non-motorized infrastructure. The optimal placement of potential new facilities will need to balance the stress level of the street, connections to other modes, and space available for dedicated facilities.

Previous Planning

2017 Master Plan

Completed in 2017, the Master Plan lays out recommendations for citywide policy, land use, and non-motorized transportation. The non-motorized transportation section of the plan provided a high-level strategy to further develop the City's non-motorized network. The following goals are the key recommendations related to mobility in Westland:

1. Create Destination Connections through installation of safe and connected infrastructure.
    a) Sidewalk Installation at intersection of Warren and Merriman Road
    b) Sidewalk Installation at intersection ¼ mile radius from City Hall
    c) Sidewalk Installation at intersection ¼ mile radius from Westland Farmer's Market
    d) Sidewalk Installation at intersection ¼ mile radius from Faust Public Library
    e) Sidewalk Installation at intersection ¼ mile radius from Stottlemeyer School
    f) Safety Study of Wayne Road from Warren to Ford Road
    g) Safety Study of Wayne Road from Canyon Drive to Glenwood Road
    h) Safety Study of ford Road from Newburgh Road to Wildwood Road
    i) Safety Study of Warren Road from Merriman to Inkster Road
    j) Safety Study of S. Carlson Street and Cherry Hill Road
    k) Bike Feasibility Study of Central City Parkway
    l) Bike Feasibility Study of Wildwood
2. Launch a 3 E's Campaign
    a) Walking Program
    b) Bike/Walk Event
    c) Bicycle Safety Program
    d) Law Enforcement Training
3. Expand Wayfinding to Bicycle Facilities
    a) Bicycle Wayfinding Study
4. Adopt Supportive Policies and Programs
    a) Complete Streets
    b) ADA Transition Plan
    c) Safe Routes to School
    d) Zoning Code
5. Install Biking Amenities
    a) Bike Racks

As part of the planning process, a community survey on non-motorized transportation was conducted. The following statements represent key findings from the survey.

- The majority of respondents walk, jog, and cycle on a weekly basis and utilized paved sidewalks/crosswalks/paths
- The typical nature of non-motorized travel was for leisure
- Parks were the top destination for non-motorized travel
- The largest barrier to walking or bicycling more frequently was personal safety

SEMCOG Bike Plan

Completed in March of 2020, the SEMCOG Bicycle and Pedestrian Mobility Plan for Southeast Michigan works to establish a common vision for bicycling and walking in the region and to provide guidance on increasing the connectivity, use, and safety of the non-motorized network for all residents in the seven county SEMCOG region (Wayne, Oakland, Macomb, Washtenaw, Monroe, Livingston, and St. Clair Counties). The

plan includes regional recommendations such as connecting and expanding the network of walking and biking infrastructure, ensuring equitable access, increasing safety, promoting healthy lifestyles and vibrant communities, public education, and sustainability.

Through a current conditions analysis and public engagement, the following relevant findings were discovered for the SEMCOG region:

- There has been an increase in bicycle and pedestrian trips from 2005 to 2015.
- Southeast Michigan biking trips on average is two miles, while the average walking trip is a half mile.
- The majority of individuals (who participated in the bicycle and pedestrian survey) traveled to parks and recreation, then shopping, dining, etc. when walking or biking.
- Protected bike lanes and shared-use paths were among the highest priorities for infrastructure improvement investment.
- Physical barriers and gaps, safety issues, and problems related to maintenance or condition, were among the most commonly cited impediments to walking and biking around the region.
- Approximately 52 percent of households in the region are within one-half mile of some type of bicycle infrastructure.

Within Westland, the following findings were noted:

- Hines Park was identified as a major regional park with a high level of interest for walking or biking.
- A large portion of the City of Westland was identified as a "high and moderate demand area" without bicycle infrastructure within one-half mile.
- The City of Westland contains areas of potential and moderate demand for bicycle and pedestrian infrastructure.
- The city also has a range in concentration of equity populations, the southern portion of the city trending towards a higher concentration.

Connecting the Rouge Plan

Connecting the Rouge is an ongoing, regional community planning effort that seeks to connect the trails along Hines Drive to the Lower Rouge and downriver portions of the Rouge River Gateway Greenway. The goals of the project include economic growth, supporting healthy lifestyles, developing a regionally connected system that links to key destinations, safety and accessibility for all users, integration of art and culture, implementation of funding to advance trail improvement and maintenance, and to collaborate with existing trail entities, and finally to connect people to nature. The framework plan is set to be complete in April of 2021.

SMART Park and Ride Design Plan

Beginning in 2020, SMART, the suburban transit provider, began the process of identifying potential sites along the three FAST bus corridors for the purpose of designing and building park and ride facilities to serve customers. The FAST corridors are Gratiot Avenue, Woodward Avenue, and Michigan Avenue. The overall goal of the project is to construct a park and ride or mobility hub facility along the three corridors to build ridership on FAST, elevate the visibility of transit in SMART communities, and to serve as areas to improve transit operations.

Since Michigan Avenue travels through Westland and through the adjacent communities, connections to these facilities with bicycle and pedestrian facilities will be important to improving their value. Regardless of the preferred site for the facility, this plan will look for ways to connect Westland residents to this important regional asset.

Key Findings

The existing conditions analysis helps to shed light on the potential non-motorized infrastructure needs of Westland. The land use, demographic, transportation, and demand analyses show where residents may need to travel, how they might get there, and which areas of the City are most in demand for new facilities. The previous planning completed in the City and Region provide a base for recommendations and a framework for implementation. The following Key Findings will inform the non-motorized recommendations developed for the Westland Pedestrian and Bicycle Safety Action Plan:

Key Findings

Distributed High Density Residential

- Pockets of high-density residential areas are scattered throughout Westland and few are connected to areas of high employment density.

Pockets of Neighborhood Connectivity

- An area of low connectivity exists between Cherry Hill Rd and Ford Rd. However, the neighborhoods north of Ford Road and south of Cherry Hill Rd are well connected.

Consistent Equity and Demand Areas

- Much of Westland is comprised of areas with medium to high concentrations of equity populations. These areas overlap with areas of medium and high non-motorized trip demand. However, much of Westland is not within a half mile of a bike facility.

Few Existing and Planned Bicycle Facilities

- The Hines Drive shared use path travels through the northern portion of Westland but is relatively disconnected to the City due to the topographical location of the road. There is only one planned non-motorized facility for Westland along Wildwood Rd.

High Sidewalk Density

- Sidewalks exist through much of Westland. Neighborhoods in the southeastern portion of the city have the highest concentration of sidewalk and bike lane demand but are also furthest from activity centers and transit.

Transit Connectivity

- SMART operated four routes through Westland, mostly on the major streets in the City. These routes provide service to cities east of Westland, including Dearborn, Detroit, Garden City, Dearborn Heights, Inkster, and Wayne.

Demand for Safe, Comfortable Facilities

- Both the City of Westland Master Plan and the SEMCOG Regional Bike Plan asked community members about their preferences for non-motorized infrastructure. In both documents, residents said that safe and comfortable infrastructure would encourage them to walk and bike more.