GETTING THERE: A VISION FOR SUPPORTIVE DEVELOPMENT & Active URBAN TRANSPORTATION IN DETROIT



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1 INTRODUCTION

1.1 Welcome to Our Guidebook

The pursuit of creating accessible, safe, and vibrant environments that accommodate all modes of transportation, particularly walking and biking, is fundamental to the development of urban spaces. These active transportation modes are crucial not just for the physical infrastructure of a city but also for the well-being and engagement of its community members. This guidebook will introduce strategies for enhancing the attractiveness and viability of walking and biking and recommend actions that are particularly effective within the context of Detroit.

Policies are most effective when they come with a well-established complementary environment. However, transportation policies are often under the purview of multiple organizations. They are interdisciplinary, encompassing land use, physical infrastructure, and public engagement, and are controlled by various levels of government, such as local authorities, state departments of transportation, and metropolitan planning organizations, among others. Organizations intending to promote active transportation might overlook the most impactful actions and their complementary policies because they are beyond their scope of work. Therefore, a flexible guidebook that introduces several approaches to supportive development (see Section 2) is essential. Our primary goal is to provide an insightful look into how supportive development can increase the effectiveness of infrastructure dedicated to walking and biking in Detroit.

We have already observed that the City of Detroit is taking steps to encourage active transportation, including initiatives such as the Zoning Analytic, Streets for People Plan, and Streetscape Projects. But what is still missing? What aspects are working well? Are there additional methods that could amplify the effects of these current projects? We hope this guidebook will serve as a reference. Understanding these questions will emphasize the importance of supportive development, evaluate the potential to increase opportunities for active transportation in Detroit, and provide insights for replication in other cities.

We have identified and categorized potential actions for various actors within the city – government agencies, nonprofit organizations, and activists – to consider implementing

as a complement to current investments in walking and biking infrastructure. Our exploration included an assessment of Detroit's ongoing initiatives and a targeted site visit to the Avenue of Fashion, enhancing our understanding of how walking and biking promotion act within the local context. Complementing this with a review of U.S. literature and practices, we summarize the suitable approaches for Detroit in the Supportive Development "Toolbox" (see Section 6). Through this, we offer our insights on the most impactful supportive developments and commend Detroit's achievements in this realm.

While the Avenue of Fashion serves as a study area in this report, it is intended to help illustrate the kinds of policies that might be implemented in other locations within the City of Detroit. With a universal blueprint in mind, we provide a versatile "Toolbox" of strategies and tools. This array allows planners and advocates to pull from a set of options, customizing their choices to best fit the particular environmental and situational demands of their targeted areas, thus promoting active transportation in a manner that respects and responds to Detroit's diverse urban fabric.

1.2 Target Audience

The contents of this guidebook are particularly relevant to:

- 1) Transportation planners working within governmental spheres that are tasked with improving mobility and urban design landscapes.
- 2) Stakeholders who play a pivotal role in the decision-making processes relating to transportation frameworks.
- Citizens, neighborhood associations, and small business associations who are deeply involved in or concerned with the progression of active transportation policies and are committed to influencing the direction of the city's strategies in this realm.

1.3 Guidelines for Use

We recommend approaching this guidebook with a high level of sensitivity to the specific context of your project. Understanding the nuances of the environment and the community will lead to more effective and sustainable outcomes.

For those who are pressed for time yet seeking a concise summary, Section 6 includes the toolbox which offers a curated list of actions that may be closely aligned with the goals of various projects. This at-a-glance resource is designed to direct users to immediately relevant strategies. For a more comprehensive understanding, those actions should then be explored in-depth within the corresponding sections of the guidebook for more elaborate information and practical advice.

1.4 History of Disadvantageous Change

We cannot proceed with the formulation of this toolbox, which recommends potential changes to implement, without recognizing the history of disadvantageous change in Detroit. Many Detroit residents may understandably be wary and resistant to proposed changes in their neighborhoods because many projects in the past have ignored the needs and values of marginalized groups. Furthermore, recent implementations of walking and biking infrastructure have been shown to undermine social justice goals¹, with a range of concerns arising from African American communities in particular.² This toolbox attempts to rectify these past oversights by combining recommendations with a sensitivity to the historical and social context of places and communities.

² Agyeman, Julian, and A. Doran. 2021. "You Want Protected Bike Lanes, I Want Protected Black Children. Let's Link': Equity, Justice, and the Barriers to Active Transportation in North America." *Local Environment* 26 (12): 1480–97.

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¹ Braun, Lindsay M. 2024. "Disparities in Bicycle Commuting: Could Bike Lane Investment Widen the Gap?" *Journal of Planning Education and Research* 44 (1): 441–56.

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Schmitt, Angie. 2020. *Right of Way: Race, Class, and the Silent Epidemic of Pedestrian Deaths in America*. Washington, DC: Island Press.

2 SUPPORTIVE DEVELOPMENT

2.1 Definition

The word development has been used in more than its fair share of urban planning topics and theories. Often associated with ideas of building and growth, development is commonly viewed as something that we should be striving towards. However, development takes on a different meaning as we use it in this report. Instead of being centered on constructing physical infrastructure or increasing economic output, development in this context has a backbone of pre-existing stability, focusing on strengthening communities rather than building new ones.

Building on prior research, and for the purpose of this report, *supportive development* is defined as the collection of institutional conditions that allow, encourage, and promote walking and biking.³ These conditions are primarily influenced by policies, programs, and cultural factors. These various factors fall into three categories that we have called *components* of supportive development. These components are detailed in the following sections.

2.2 Components

The three components of supportive development are summarized in Table 1.

Category	Description	Examples	Successful if
Land Development	Policies and regulations that influence how property is developed in a particular area.	Zoning, land use, parking requirements	Allows more people to access valuable destinations

Table 1. Components of Supportive Development

³ Louch et al. 2016. "Noteworthy Local Policies That Support Safe and Complete Pedestrian and Bicycle Networks." FHWA-SA-17-006. Washington, D.C.: Federal Highway Administration.

Street Infrastructure and Use	Amenities and infrastructure that influence how street space can be used.	Sidewalks, bike lanes, pedestrian islands, trees, benches	Allows more people to safely and comfortably bike or walk through their neighborhood
Programming	Social institutions and connections that influence how people travel through and interact with their environment.	Community engagement, events, education	Utilizes community networks to build a more welcoming walking and biking atmosphere

2.2.1 Land Development

Land development refers to the policies and regulations that influence how property is developed in a particular area. In other words, factors that fall under land development are those that primarily shape the development practices of land that is adjacent to streets. Some examples of land development factors include zoning, land use patterns, and parking requirements. If land development factors are allowing more people to access valuable destinations, there is a good chance that they are increasing supportive development.

2.2.2 Street Infrastructure

Street infrastructure refers to the amenities and infrastructure that influence how a street can be used. While these factors do not require people to change their behavior, they allow for behavioral changes by designing the street space to be more encouraging for walking and biking. Some examples of street infrastructure and use factors include sidewalks, bike lanes, and benches. If street infrastructure factors are allowing more people to safely and comfortably bike or walk through their neighborhood, there is a good chance that they are increasing supportive development.

2.2.3 Programming

Programming refers to the social institutions and connections that influence how people understand and respond to the built environment. These factors may not have a physical component to them that you can point to, but they help shape community culture and attitudes surrounding walking and biking. Some examples of programming factors include community engagement activities, events, and education. If programming factors are utilizing community networks to build a more welcoming walking and biking atmosphere, there is a good chance that they are increasing supportive development.

2.3 Context Sensitivity

The extent to which any specific factor within these three components contributes to supportive development will always be dependent on the specific context within which it is situated. Each of the descriptions of the components ended with the phrase "...there is a good chance that they are increasing supportive development." In general, the more that each of these categories promotes walking and biking, the greater the overall supportive development. However, if the method of promoting walking and biking in an area compromises the stability of the community, it may not increase overall supportive development. For example, a community that sees rapid investment in bike lanes and other types of green infrastructure may promote walking and biking. But if these investments result in raising property values and rents such that people are displaced from the community and cannot take advantage of these investments, the requirement for context sensitivity is not met.

Community engagement and incremental change are integral to the stability-centered approach of supportive development. This toolbox is meant to offer a variety of approaches to supportive development, some of which will work for some communities and not for others. Throughout this toolbox, it is important to remember that supportive development should happen in a collaborative way that aims to strengthen and enhance the goals of a community.

3 PERSPECTIVES ON ACTIVE TRANSPORTATION

Active transportation is an area of special interest for many professions and fields of study. Urban planners, public health professionals, and environmentalists each see in active transportation the potential to improve quality of life, health, and natural environments in communities everywhere. Moreover, as the climate crisis worsens, the need for investments in green transportation – especially walking and biking – is paramount. To gain a richer understanding of the variety of perspectives on active transportation, our team reviewed a selection of reports, peer-reviewed articles, books, and studies on this topic.

Since 1990, cycling has become the fastest growing mode of commuting in the United States and cities have responded quickly to accommodate this trend.⁴ One of the more effective ways local governments have improved active transportation is through development regulations. At a high level, planners and zoning professionals use design standards to ensure that streets are outfitted with bike lanes, wide and connected sidewalks, and other active transportation amenities. On a smaller scale, cities use development regulations to incentivize the provision of bike parking and other pedestrian-friendly features in new developments.⁵

Public health professionals are drawing important connections between the built environment, active transportation, and overall wellbeing. Research shows that neighborhoods with a mix of land uses, connected streets, and bike and pedestrian infrastructure "positively affect the frequency and duration of daily physical activity."⁶ At the same time, however, Americans are more sedentary than ever – sitting for prolonged periods of time at home, work, and in their cars.⁷ To help residents lead healthy lifestyles,

⁴ Beiswenger, Jeffrey. 2014. "Shifting the Regulatory Gears to Promote Bicycling." *Zoning Practice*, No. 10 (October), 3.

⁵ Ibid, 7.

⁶ Chriqui et al. 2016. "Communities on the Move: Pedestrian-Oriented Zoning as a Facilitator of Adult Active Travel to Work in the United States." *Frontiers in Public Health*, 4.

⁷ Owen et al. 2010. "Sedentary behavior: emerging evidence for a new health risk." Mayo Clin Proc.

cities are increasingly looking for insights from the field of public health to make decisions about land use and transportation planning.⁸

Environmentalists and sustainability offices in cities across the United States are championing active transportation to mitigate the negative impacts of climate change. These groups see a potential to reduce tailpipe emissions, noise pollution, and congestion in cities by encouraging residents to reduce car use and shift instead to walking, biking, and public transit.⁹ The benefits of improving active transportation for the environment are many and far reaching. Families able to experience active transportation as an enjoyable and freeing way to travel, for example, are more likely to find adopting car-free lifestyles an appealing prospect.¹⁰

⁸ Chiquiri et al., 5.

⁹ Rabil, Ari and Audrey de Nazelle. 2012. "Benefits of Shift from Car to Active Transport." *Transport Policy*. Vol. 19 No. 1.

¹⁰ McQueen et al. 2020. "The E-Bike Potential: Estimating Regional E-Bike Impacts on Greenhouse Gas Emissions." *Transportation Research Part D: Transport and Environment.*

4 SUPPORTIVE DEVELOPMENT IN DETROIT

The City of Detroit is making progress in improving the experience of walking and biking through its neighborhoods by embracing supportive development policies. A coalition of active transportation advocates made up of City departments, non-profit organizations, and neighborhood groups are seeking to transform Detroit's transportation system into one more amenable to walkers and bikers. To this end, a full suite of supportive development policies – related to land development, street infrastructure, and programming – is being embraced by Detroit.

The City's urban landscape, however, has not always been accommodating to pedestrians and cyclists. In fact, as the automobile industry grew in the mid-20th century, Detroit public policy "oriented itself toward car drivers."¹¹ The results of this auto-centric policy shift are evident today; highways and wide arterial roads bisect the city to swiftly move cars and large parking lots dot Detroit's downtown and busy commercial corridors. At the same time, funding for public transportation plummeted, cementing the automobile's dominance in the Motor City.¹² These policy and infrastructure decisions degraded the ability of Detroiters to enjoyably walk and bike through their city. Today, 33% of residents say they "do not walk at all" and 87% say they "do not take public transit at all, or rarely."¹³

The shifting of public policy back in favor of pedestrians and cyclists is, however, already underway. Detroit's *Zoning Analytic* outlines several ways the City intends to use land use planning to create environments that cater to the needs of pedestrians and cyclists. The City's *Streets for People Plan* and Streetscape Projects demonstrate how Detroit is implementing 'complete streets' style infrastructure to expand people's transportation choices and make traveling through the city safer for all. Finally, programming efforts led by city departments, neighborhood organizations, and advocacy groups are encouraging residents to travel the city on bike and foot.

¹¹ Sugrue, Thomas. 2004. "From Motor City to Motor Metropolis: How the Automobile Industry Reshaped Urban America." *Automobile in American Life and Society*.

¹² Ibid.

¹³ City of Detroit. 2022. Streets for People. The City of Detroit Transportation Master Plan.

4.1 Detroit's Zoning Ordinance: Promoting Better Walking and Biking through Land Development

There is a sense among real estate industry professionals that Detroit is "entering a new era."¹⁴ A resurgence in growth that Detroit's Downtown and Midtown areas experienced in recent years is fueling optimism that residential and commercial development can extend into nearby neighborhoods.¹⁵ In 2018, the Detroit City Planning Commission began the process of updating the City's Zoning Ordinance – which was last changed in 2005 – to "help protect the things valued about Detroit, while allowing for the kinds of development patterns that will serve Detroit well into the future."¹⁶

The Zoning Analytic – a report that outlines key recommendations for the new Zoning Ordinance – offers a glimpse into how land use planning could guide real estate development in the years to come. There are a variety of topics discussed in the *Zoning Analytic* including community input in the zoning process, residential neighborhood development, commercial corridor development, and job growth. Five recommendations, showcase the ways that land development planning can improve the pedestrian and cyclist experience in Detroit.

4.1.1 Reduce the Impact of Auto-Related Uses

Detroit has an abundance of auto-related businesses including tire sales and storage facilities, car repair shops, and scrap iron and metal processors.¹⁷ These land uses foster environments detrimental to walking and biking by inducing traffic and often impeding on sidewalk space. Detroit is considering creating a new zoning category for auto-related uses and removing them from current business districts.

4.1.2 Promote Access to Parks and Open Space

Parks allow for "healthy lifestyles, crime reduction, community interaction, and educational opportunities."¹⁸ Detroit's Parks and Recreation Department oversees an impressive 308 designated parks. The City is considering allowing land under four acres

¹⁴ City of Detroit. 2020. Zoning Analytic: City of Detroit Zoning Recommendations Report, 1.

¹⁵ Ibid.

¹⁶ Ibid.

¹⁷ City of Detroit. *Zoning Analytic*, 40.

¹⁸ Ibid, 42.

to be zoned for park use, giving many more residents the potential to live within walking distance of a park.

4.1.3 Make it Easier to Mix Uses

Mixed-use zoning is a hallmark of walkable and bikeable neighborhoods. Over the years, Detroit has created a variety of zoning districts – notably the Special Development (SD) and Traditional Main Street Overlay (TMSO) – that have made it easier for developers to mix residential, business, and industrial uses.¹⁹ Continuing in this tradition, the City is considering allowing residential development along "significant portions of commercial corridors" and allowing "modest industrial uses such as artisan spaces" in residential zones.²⁰

4.1.4 Right-Size the Approach to Parking

Detroit's minimum parking requirements were a "significant topic of discussion during the stakeholder interviews and community meetings."²¹ By inducing traffic, taking up unnecessary space, and inflating construction costs, parking minimums make pedestrian-friendly neighborhoods difficult to build. The City of Detroit wants to revamp its parking policies by requiring bicycle parking for certain development types, adding parking maximums in pedestrian-oriented areas, and requiring that loading zones be separated from the public right of way.

4.1.5 Utilize Vacant Land for More Productive Uses

The patchwork of vacant lots across Detroit makes walking and biking for travel or leisure difficult by reducing connectivity and increasing a perception of danger.²² The City, however, sees in these vacant properties opportunities for economic growth. By allowing for low-intensity uses including urban farms, green stormwater spaces, and solar panel facilities, neighborhoods can be reconnected and revitalized.

¹⁹ Ibid, 46.

²⁰ Ibid, 46.

²¹ Ibid, 50.

²² Ibid, 60.

4.2 *Streets for People* and Streetscapes: Promoting Better Walking and Biking through Street Infrastructure

Successful active transportation in Detroit relies on the ability of residents to safely travel the city on bike or foot. In fact, transportation safety is a major concern for cities and municipalities across the United States. There is an epidemic of pedestrian and cyclist fatalities in this country caused by road designs that prioritize the movement of vehicles over the safety of people.²³ Trends in Detroit unfortunately confirm this diagnosis. Each year, an average of 108 people are killed in car crashes in Detroit with another 495 seriously injured.²⁴ Alarmingly, "43% of fatal crashes occur on just 3% of streets."²⁵

The City of Detroit is, however, making a conscious effort to transform its transportation systems by making them safer and more useful for pedestrians and cyclists. The City's 2022 *Streets for People Plan* outlines a roadmap for how Detroit intends to do this. Drafted after thorough public engagement – where safety was a primary concern – the plan seeks to "ensure that no matter where you live or travel in Detroit, you will have multiple safe, affordable, and high-quality transportation choices to get where you want to go, even if you don't drive a car."²⁶

Many of the street infrastructure and design recommendations included in the *Streets for People Plan* are built from the success of Detroit's Streetscape Program. Beginning in 2019, the City invested around \$80 million to bring "complete streets" style infrastructure to major commercial corridors in each Detroit neighborhood.²⁷ *Table 2* identifies all streetscape projects in Detroit. These streetscapes exhibit design techniques including protected bike lanes, wide sidewalks, pedestrian safety islands, and crosswalk bump-outs that can make walking and biking safer and more enjoyable. The streetscapes on Livernois Avenue of Fashion, Bagley in Mexicantown, and Riopelle in Eastern Market are examples of this work.

Table 2: Detroit's Streetscape Program Projects

Primary Street	From Street	To Street	Road Owner	Project Description

²³ Badger, Emily and Alicia Parlapiano. 2022. "The Exceptionally American Problem of Rising Roadway Deaths." *New York Times*.

²⁴ City of Detroit. 2022. *Streets for People*. The City of Detroit Transportation Master Plan, 14.

²⁵ Ibid.

²⁶ Ibid, 4.

²⁷ City of Detroit. *Streetscape Program*.

			City/Michigan	Resurfacing, Bike Lanes,
15th	Bagley	Lacombe	Central	Shared Street
	W. Fisher Fwy. Service			
Bagley	Drive	24th	City	Shared Street (to grade)
Conant	E. Davison	Carpenter	City	TBD
Dexter	Davison	Webb	City	TBD
				Resurfacing, Bike Lanes,
E Jefferson	Rivard	Alter	City	etc.
E. Warren	3 Mile Drive	Cadieux	City	TBD
Grand Parklet	Grand River	Evergreen	City	Plaza
		Southfield		Resurfacing, Bike Lanes,
Grand River	Berg	Fwy.	State	etc.
Joseph				Resurfacing, Bike Lanes,
Campau	E. Jefferson	Atwater	City	etc.
				Resurfacing, Bike Lanes,
Kercheval	Mt. Elliott	Parker	City	etc.
Livernois	Clarita	8 Mile	City	Reconstruction
Riopelle	Fisher	Division	City	Shared Street (to grade)
				Resurfacing, Bike Lanes,
Rosa Parks	Grand Blvd	Clairmount	City	Upgraded Crossings, etc.
				Resurfacing, Bike Lanes,
W. McNichols	Livernois	Wyoming	City	etc.
W. Vernor	Newark	Clark	City	Underground Lighting
W. Warren	Southfield Fwy	Mettetal	County	TBD

4.3 Promoting Better Walking and Biking through Programming

Land development policies and street infrastructure are important, but incomplete parts in the effort to improve active transportation in Detroit. Getting people to walk and bike – for travel or leisure – requires city agencies and neighborhood organizations to develop programs, events, and initiatives that help residents understand and encourage them to embrace active transportation. These "programming" efforts can take many forms, from one-off community engagement sessions to longer-term projects.

Detroit's Office of Mobility Innovation, for example, helps city residents "navigate the rapidly changing transportation and mobility industries."²⁸ OMI's 2020 Essential Workers E-Bike Pilot, which encouraged Detroiters to bike to work during the COVID-19 pandemic, exemplifies how programming can help cities adapt to changing circumstances.²⁹ Additionally, the Department of Planning & Development and the Department of Public Works' Detroit Rides campaign brings together stakeholders from government offices and local organizations to increase bike ridership, update road users of new infrastructure, and decrease bike and pedestrian injuries and fatalities.³⁰

Several non-profit and advocacy groups in Detroit are using programming events and activities to inform residents about the importance of active transportation. The Detroit Greenways Coalition, for example, has been advocating for improved walking and biking conditions in Detroit since 2007. Their signature project, the Joe Louis Greenway, was born out of a group of Detroit residents' desire for a connected walking and biking path through the city. After years of community organizing and public engagement efforts by the Detroit Greenways Coalition, the Joe Louis Greenway project was adopted by the City of Detroit and has received upwards of \$20 million in funding for its planning and construction.³¹

²⁸ City of Detroit. Office of Mobility Innovation.

²⁹ City of Detroit. Keeping Detroit Moving: Lessons from the 2020 Essential Workers E-Bike Pilot, 3.

³⁰ City of Detroit. *Detroit Rides*.

³¹ Detroit Greenways Coalition. Joe Louis Greenway.

5 AVENUE OF FASHION

To get a better picture of the supportive development landscape in Detroit, we selected a study area to help identify key characteristics and issues. The area we selected is Livernois between Seven Mile and Eight Mile, and the surrounding communities to the east and west of Livernois. This area, known as the Avenue of Fashion, is about 6 miles north of downtown Detroit. Given the recent investments of the streetscapes program and strong presence of street infrastructure, this area offers a snapshot of the current status of supportive development in Detroit.

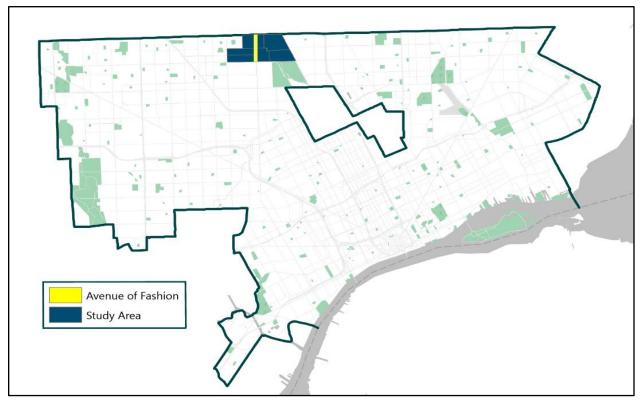


Figure 1: Our study area – The block groups that surround the Avenue of Fashion

5.1 Facts About the Place – American Community Survey Data

Looking at demographic information illustrates the similarities and differences that our study area has to other areas in the city.³² *Figure 2* shows that the Avenue of Fashion (outlined in red) and its surrounding area has a similar population density relative to other

³² U.S. Census Bureau. 2024. 2018-2022 American Community Survey 5-year Estimates.

block groups in Detroit. Most block groups in our study area are between 0.000794 and 0.002501 people per square meter, which is comparable with most other residential block groups in Detroit.

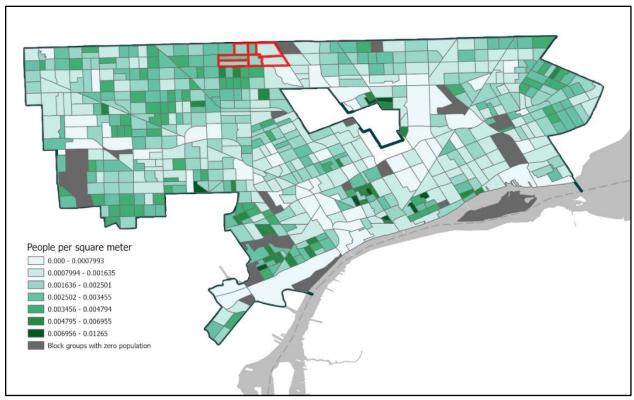


Figure 2: People per square meter in Detroit (2018-2022 ACS 5-year Estimates)

Additional similarities, shown in *Table 3*, are prevalent in factors such as average household sizes and modes of transportation to work.

Basic Information			
	Study Area	Rest of Detroit	
Median household income in the past 12 months			
(in 2022 inflation-adjusted dollars)	\$75,848.98	\$37,469.45	
Median Age	43.61	35.95	
Average Household Size	2.41	2.68	
Commute Time to Work			

	Study Area	Rest of Detroit
Less than 15 minutes	10.68%	19.99%
Less than 30 minutes	51.16%	45.08%
Less than 45 minutes	23.56%	22.61%
More than 45 minutes	14.60%	12.32%

Home Ownership & Vehicle Ownership

	Study Area	Rest of Detroit
Owner Occupied Housing Units	66.82%	46.02%
Renter Occupied Housing Units	33.18%	53.98%
Occupied Houses	93.37%	78.15%
Vacant Houses	6.63%	21.85%
Owner occupied: no vehicle available	3.78%	4.88%
Renter occupied: no vehicle available	2.43%	16.75%

Method of Transportation to Work

	Study Area	Rest of Detroit
Car	80.47%	78.44%
Public Transportation	5.95%	5.50%
Taxi	1.03%	0.71%
Motorcycle	0.00%	0.05%
Bicycle	0.00%	0.52%
Walked	1.38%	3.50%
Other means	1.05%	2.10%

Worked from home	10.12%	9.18%	
Race			
	Study Area	Rest of Detroit	
White alone	7.80%	12.30%	
Black or African American alone	82.72%	77.63%	
American Indian and Alaska Native alone	0.21%	0.32%	
Asian alone	5.77%	1.75%	
Native Hawaiian and Other Pacific Islander alone	0.00%	0.01%	
Some Other Race alone	0.28%	4.37%	
Two or More Races	3.23%	3.62%	
Households with Seniors			
	Study Area	Rest of Detroit	
Households with one or more people 65 years and over	45.28%	28.73%	
Households with no people 65 years and over	54.72%	71.27%	

However, *Table 3* also illustrates how the study area has differences with the rest of the city. While our study area has a median household income in the past 12 months of \$75,848.98, the rest of Detroit has a median income in the past 12 months of \$37,469.45. Homeownership is also higher in our study area compared to Detroit, with 66.82% of households in our study area being owner-occupied while the rest of the city has an owner-occupancy rate of 46.02%. Regarding transportation, a combined 6.21% of households in our study area do not have a vehicle while 21.63% of households in the rest of the city do not have a vehicle available.

5.2 Land Development

Land on and near the Avenue of Fashion appears modestly developed to encourage biking and walking. The residential neighborhoods on either side of Livernois are designated as primarily R1 Single Family Residential Districts. This zoning classification is "designed to protect and preserve quiet, low-density residential areas... with single family detached dwellings characterized by a high ratio of home ownership".³³ These neighborhoods do indeed have higher rates of owner occupancy relative to the rest of Detroit and significantly lower vacancy rates.³⁴ Some land on the southern edge of the Avenue of Fashion, near the University of Detroit Mercy, is zoned to allow small apartment buildings in addition to single-family homes.



Figure 3: The Avenue of Fashion is located adjacent to high-density residential areas

³³ City of Detroit. Zoning District Classification.

³⁴ U.S. Census Bureau. 2024. 2018-2022 American Community Survey 5-year Estimates.



Figure 4: The area has practical locations such as Mike's Fresh Market, a large-size grocery store

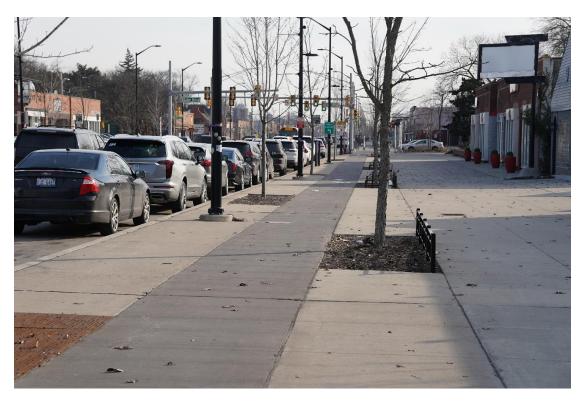


Figure 5: Parking is plentiful – to the point where it may be impacting walkability



Figure 6: While alleyway access still exists for cars, it can often conflict with biking and walking

5.3 Street Infrastructure

As mentioned earlier, the street infrastructure is strong in our study area. The Livernois Streetscape Project completed in the summer of 2020 transformed the area by giving features such as separated bike lanes and wide sidewalks. The project extends from Clarita Street to Eight Mile.³⁵

Although there is room for improvement, our site visit revealed that there are many designs in place to support biking and walking.

³⁵ City of Detroit. *Livernois Streetscape Project*.



Figure 7: Benches accompanying the sidewalk along with bicycle signal heads can encourage walking in the area



Figure 8: Signage that shows the location of MoGo bike-sharing stations, including a digital kiosk with information about the area, may help vitalize active transportation



Figure 9: While bike lanes exist, the markings for them can be considered inadequate in certain spots

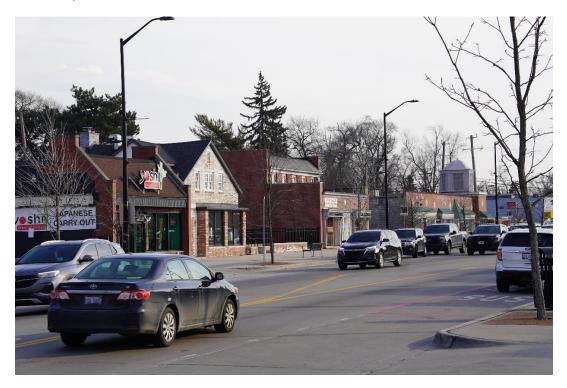


Figure 10: The number of cars on the road due to the street design and limited amounts of sidewalks make walking and biking potentially less attractive

5.4 Programming

Programming is important to overall supportive development but is inherently different from the other two components. It is harder to observe compared to land development and street infrastructure and implementation is more intricate.

In an interview with Kim Tandy, the District 2 Manager for the City of Detroit, emphasized how supporting small businesses could encourage more people to walk and bike in the area. In the supportive development framework, creating programs to help businesses thrive and increase foot traffic can be an example of programming.



Figure 11: An example of programming – speed limits. Higher speed limits can discourage active transportation due to safety concerns

5.5 Takeaways from the Avenue of Fashion

While supportive development is seen in this location, it is not perfect and something that can be improved. ACS data reveals that there are similar characteristics between our study area and the rest of Detroit, but there are also key differences that must require consideration. This further shows the need to approach supportive development with

sensitivity to context of specific neighborhoods and communities. The "one-size-fits-all" approach may not be appropriate in places such as Detroit with the diversity of its neighborhoods.

6 SUPPORTIVE DEVELOPMENT IN DETROIT "TOOLBOX"

Drawing on the findings from our research and recognizing Detroit's current supportive development context, this toolbox offers several approaches to supportive development. While this toolbox is by no means exhaustive of all the approaches that Detroit can utilize for supportive development, we have attempted to include tools that are applicable to Detroit's current supportive development context, finding a balance between providing too many options and too few options. The toolbox follows the organization of supportive development by presenting tools in each of the three components of supportive development; land development, street infrastructure, and programming.

6.1 Toolbox

6.1.1 Land Development³⁶

Category	Tool Name	Description	Objectives & Impacts
Housing	Expand Housing Options	Allows in residential districts the construction of various housing types and styles including townhouses, duplexes, and small apartment buildings.	Expands housing options, improves housing affordability, revitalizes neighborhoods, and allows residents to live closer to destinations they value.
	Affordable Housing Incentives	Spurs the construction of below-market-rate housing by providing developers with incentives such as tax	Reduces housing-cost burden for residents, improves quality of life, and revitalizes neighborhoods.

Table 4: Land Development Tools for Supportive Development

³⁶ City of Detroit. Zoning Analytic.

		breaks and density bonuses.	
Regulations	Parking Reform	Regulates the requirements for developers to provide car parking.	Allows more space for active transportation, reduces construction costs, and allows for more green spaces.
	Mix Land Uses	Allows a variety of land uses including residential, commercial, and industrial to exist on the same lot or near one another.	Mixed use zoning is the hallmark of walkable and bikeable neighborhoods.
Land Use and Zoning	Creative Solutions for Vacant Land	Allows more flexibility in how vacant lots can be developed.	Creatively transforms vacant land into urban farms, small parks, and solar energy facilities.
	Reuse Existing Buildings	Allows more flexibility in how vacant buildings can be used and preserved.	Transforms vacant buildings into housing, shops, and other valuable destinations.
	Reuse Excess Industrial Land	Allows more flexibility in how unused industrial land can be redeveloped.	Transforms unused industrial land – especially land in central locations – into housing, shops, light industry, and other valuable destinations.
	Form-Based Codes	Include specification of what uses are permitted, but focus on the physical character of development, particularly how it relates to the public realm.	Provides greater predictability about the visual aspects of development, including how well it fits in with the existing context of the community.

6.1.2 Street Infrastructure

Table 5: Street Infrastructure Tools for Supportive Development

Category	Tool Name	Description	Objectives & Impacts
	On-road Bicycle Lanes	Bicycle lanes, marked by a white stripe and bike icons, should be at least five feet wide and positioned to the right of vehicle lanes.	Incentivizes residents to bike by increasing safety.
	Contraflow Bike Lanes	Allow bicyclists to ride against traffic on one-way streets.	Improves bike efficiency and accessibility.
Bike Lanes ³⁷	False One-way Streets	Use signage or barriers to restrict entry to cyclists only, allowing two-way vehicle travel but less commonly.	Improves biking safety.
	Shared Bus/Bike Lanes	Bus-only lanes, usually in downtown environments, that allow bicycle travel.	Enhance bike accessibility and travel efficiency, especially on streets where on-road bicycle lanes are not possible.
	Off-Street Paths	Off-street paths, or 'trails,' are paved, separated from motor traffic, typically support two- way bike flow, and should be at least 10 feet wide, allowing mixed-use or exclusive cyclist access.	Improve bike safety and cyclists' travel experience.

³⁷ Pucher et al. 2010. "Infrastructure, programs, and policies to increase bicycling: An international review." *Preventive Medicine*, 50, S106–S125.

	Signed Bicycle Routes	A shared roadway marked by signs as a preferred bicycle route without striped lanes or pavement markings.	Incentivizes bike travel, but it is less effective than on-road bike lanes.
	Bicycle Boulevards	Low-traffic streets are marked with traffic-calming features such as speed bumps, diverters, and traffic circles.	Enhances bike safety and experience by discouraging motor vehicle traffic and prioritizing cyclists.
	Cycle Tracks	Enhance cyclist safety with greater physical separation from motor vehicles using curbs, parking, or barriers, and ensure these lanes are wider than normal and exclude pedestrians.	Incentives residents to bike by increasing safety and bike experience.
	Colored Lanes	Bike lanes are colored using paint or other methods.	Enhances visibility of the bike lane for cyclists and drivers.
	Shared Lane Markings	Lanes shared by motor vehicles and bicycles to alert drivers to the presence of cyclists and to guide cyclists on road positioning.	Increases biking safety but is less effective than bike on-road bike lanes and cycle tracks.
	Shorten Cyclists' Routes	Cut-throughs provide cyclists, not motor vehicles, with direct route connections, while right- turn shortcuts allow cyclists to turn before intersections.	Enhances bike travel efficiency and safety.
Bike Lane and Pedestrian Supportive	Crosswalks	Crosswalks are paved areas for pedestrians to go from one side of the street to another, providing a designated safe	Enhances safety through accessible and well-defined routes.

		space to cross vehicular traffic.	
	Rest Facility	Rest facilities on streets, such as benches, shelters, and drinking fountains, offer pedestrians places to pause and recuperate during their journeys.	Supports pedestrian activity by increasing comfort and accessibility.
	Street Lighting	Good quality of lighting on both bike lanes and pedestrians.	Makes walking and biking at night safe, practical, and enjoyable.
Traffic Control	Street Design ³⁸	Wide, straight streets encourage fast driving and discourage walking or biking, while narrow, winding streets deter fast car travel.	Create safer streets by slowing down traffic.
	Bike Box ³⁹	Bike boxes at signalized intersections are positioned ahead of motor vehicle lanes, allowing cyclists to wait during red lights and potentially allowing bikes to start earlier.	Improves safety and bike experience at intersections.
	Bicycle Signals ⁴⁰	Separate traffic signal phases for bicycles at intersections enable cyclists to cross without motor vehicle interference.	Enhances bike safety and efficiency at intersections.

³⁸ Centers for Disease Control and Prevention (CDC). 2020. *The Active Communities Tool Assessment* Modules. ³⁹ Pucher et al. ⁴⁰ Ibid.

	Flow Control Infrastructure	Physical infrastructure like vertical deflections (speed humps) and horizontal deflections (bulb-outs, neck- downs, chicanes).	Reduces motor vehicle impacts, alters driver behavior, and improves conditions for non-motorized users, often focusing more on pedestrian than cyclist safety.	
Facility Technical and Quality ⁴²	Maintenance Of Facilities	Periodic facility maintenance.	Ensures pavement quality and cleanliness, significantly impacting bicycling safety, influencing route choice, and improving overall walking and cycling experience.	
	Wayfinding Signage	Wayfinding signs for cyclists display destinations, distances, or cycling times, aiding navigation, and route planning.	Enhances bike convenience and experience.	
Regional Strategy	Home Zones ⁴³	A traffic calming strategy redesigns residential streets into play spaces with a ten- mph speed limit, incorporating benches, flowerbeds, trees, lamp posts, play structures, and special pavement treatments.	Transforms streets into vibrant, multi-use spaces that encourage biking and walking, and neighborly engagement.	
	Car-Free Zones44	Typically appear in three forms: (1) Temporary Road closures (2) Pedestrian malls in central business districts, where several blocks are closed to vehicles with limited	Promotes biking and walking by creating non-vehicle and safer places.	

- ⁴¹ Ibid.
 ⁴² Ibid.
 ⁴³ Ibid.
 ⁴⁴ Ibid.

		exceptions. (3) Car-free neighborhoods, requiring residents to park at remote facilities.	
	Complete Streets ⁴⁵	The complete streets concept advocates that streets should accommodate all users— pedestrians, cyclists, transit riders, wheelchair users, shopkeepers, and residents— not just vehicles.	Ensures accessibility and safety for all.
	Bicycle Friendly Business District ⁴⁶	Business districts with ample bike-friendly amenities and campaigns like special discounts for cyclists.	Encourages bicycle use in the business district with bicycle facilities and campaigns.
	Bike Parking	General forms: unsheltered parking, sheltered parking, guarded parking, bike lockers	Enhances biking experience and convenience.
Stopping and Parking Facilities ⁴⁷	Showers At Workplace	Facilities for commuters and cyclists include showers, clothes storage, changing areas, and often bike parking	Supports a seamless transition from cycling to the workplace or other destinations.
	Bicycle Station	Full-service facilities offer secure, sheltered bike parking and numerous services, including bicycle rentals, repairs, showers, accessories,	Enhances cycling's convenience and appeal.

 ⁴⁵ Ibid.
 ⁴⁶ Change Lab Solutions. 2013. "Getting the Wheels Rolling: A Guide to Using Policy to Create Bicycle Friendly Communities."
 ⁴⁷ Pucher at al.

		bike washes, and touring advice.	
Connect public transit and bicycle ⁴⁸	Parking at Public Transit Station	Enough bike parking close to public transportation.	Incentives bike use by connecting bikes with public transit and allowing cyclists to easily access public transit stations.
	Bike Racks on Public Transit	Build bike racks on public transportation.	Allows cyclists to comfortably use public transit with their bikes.
	Bike Rental at Public Transit Station	Bike rental station near public transit stations.	Allows public transit users to rent a bike easily.
Parks and Greenways	Parks ⁴⁹	Parks include recreation facilities and share-paths for biking and walking.	Promotes active transportation by offering spaces for walking, biking, and recreation facilities.
	Greenways	A greenway is typically a shared-use path that connects urban areas with green spaces.	Enhances accessibility and encourages biking and walking by providing safe, scenic, and segregated pathways.

6.1.3 Programming

Table 6: Programming Tools for Supportive Development

Category Tool Name		Description	Objectives & Impacts	
	General Travel Programs	Employer-based programs, sometimes required by law,	Promotes transit use, walking, and cycling for commuting.	

 ⁴⁸ Ibid.
 ⁴⁹ CDC. 2020. The Active Communities Tool Assessment Modules.

		offer promotions, financial incentives, and support to encourage alternative commuting methods.	
Bike Usage Incentive ⁵⁰	Travel Awareness Programs	Local governments or community organizations typically lead initiatives to reduce driving and promote transit, walking, and bicycling.	Fosters more sustainable and active transportation options within communities.
	Bicycling-Specific Programs	Promotional events, lasting from a day to a month, often include incentives like free breakfasts, giveaways, and contests to engage and motivate participants.	Encourages commuters to try cycling as a viable option for their daily commute.
Education and Bicycle	Safe Routes to School	Include educational, encouragement, infrastructure, and enforcement initiatives to enhance safety and boost student participation in walking or bicycling to school.	Addresses child safety concerns for walking and biking and promotes sustainable transportation habits starting with children.
Access ⁵¹	Marketing	Comprehensive marketing programs target neighborhoods, schools, and workplaces to promote alternative transportation, offering tailored information, special events, and	Encourages a shift towards more sustainable and active transport methods.

		incentives like transit passes or bicycle store coupons.	
	Education/Traini ng	Equipping individuals with the skills and knowledge needed for safer and more effective cycling practices.	Improves bicycle safety and usage by enhancing cycling proficiency and knowledge of bicycling laws.
	Bicycle Sharing Programs	Programs provide short- term bicycle rentals through automated stations citywide.	Provides a convenient and sustainable transportation option for both residents and visitors.
	Bicycle Access Programs	Programs offer bike giveaways, loaner and fleet services, and maintenance to ensure bicycles remain in good condition.	Removes barriers to cycling, making it more accessible and viable for a wider population segment.
Car-free Activity ⁵²	Ciclovia	Free mass recreational programs close streets to motorized traffic, allowing exclusive use by pedestrians, runners, rollerbladers, and cyclists.	Fosters a safe and lively environment for various physical activities and establishes a bike and pedestrian culture.
	Bicycle Culture Festival	Include bicycle film festivals showcasing cycling culture, bicycle "buses," recreational cycling events, and awareness campaigns.	Boosts public knowledge and support for cycling as both transportation and recreation.

Safety Program	Helmet Requirement ⁵³	Mandatory for cyclists of all ages or specific age groups (e.g., under 18) to wear helmets while riding.	Enhances safety and minimizes the risk of head injuries.
	Speed Limits ⁵⁴	Lowering speed limits for some specific road sections.	Enhances safety for cyclists and pedestrians and improves environmental quality by reducing noise and emissions.
	Prohibit Obstruction of Bicycle Lanes ⁵⁵	Prohibit stopping or parking in bike lanes and ensure delivery trucks park outside the bike lane to avoid blocking it.	Enhances safety by ensuring clear paths for cyclists.

 ⁵³ Ibid.
 ⁵⁴ Ibid.
 ⁵⁵ Change Lab Solutions. 2013. "Getting the Wheels Rolling: A Guide to Using Policy to Create Bicycle Friendly Communities."

7 ANALYSIS AND RECOMMENDATIONS

For our analysis, we are illustrating the use of the toolbox in our study area. It is important to keep in mind that recommendations would differ from neighborhood to neighborhood, especially in a city as diverse as Detroit. However, these recommendations are the result of applying our toolbox to the Avenue of Fashion with the knowledge of the area that we have.

7.1 Land Development Recommendations

Recommendation 1: Expand Housing Options

Tool Category: Housing

Tool Description: Allows in residential districts the construction of various housing types and styles including townhouses, duplexes, and small apartment buildings.

Potential Impact on the Avenue of Fashion: The City of Detroit may consider upzoning parts of the residential neighborhoods on either side of the Avenue of Fashion to allow for a wider variety of housing types and styles in the future. Expanding housing options was mentioned as a top concern for Detroit residents during the public engagement phase of the zoning ordinance update.⁵⁶ Allowing for the development of housing styles including townhouses, duplexes, and small apartment buildings can allow Detroiters from different income levels to live within walking and biking distance of the Avenue of Fashion.

Recommendation 2: Form-Based Codes

Tool Category: Land Use and Zoning

Tool Description: Include specification of what uses are permitted, but focus on the physical character of development, particularly how it relates to the public realm.

Potential Impact on the Avenue of Fashion: New and improved sidewalks were installed along the Avenue of Fashion as part of the 2019 Streetscape Program. The width of the sidewalks provides ample room for cyclists and pedestrians of all ages and abilities. During our site visit, however, our team noticed that few businesses used the sidewalk space to showcase their services and attract passersby. Form-based codes could give

⁵⁶ City of Detroit. Zoning Analytic.

businesses along the Avenue of Fashion more ways to engage with pedestrians through outdoor seating at restaurants, large windows, and other amenities.

7.2 Street Infrastructure Recommendations

Recommendation 1: Crosswalks

Tool Category: Pedestrian Supportive

Tool Description: Crosswalks are paved areas for pedestrians to go from one side of the street to another, providing a designated safe space to cross vehicular traffic.

Potential Impact on the Avenue of Fashion: There are valuable destinations on both sides of the Avenue of Fashion. The avenue's long blocks and the absence of mid-block crosswalks, however, make it difficult and dangerous for pedestrians to access the places they want to go. Our team recommends that the City of Detroit follows NACTO's guidelines for mid-block crossings which includes adding stop bars 20-50 feet from all crosswalks and pedestrian safety islands where there is need for enhanced safety.

Recommendation 2: Bike Parking

Tool Category: Stop Facilities

Tool Description: General forms: unsheltered parking, sheltered parking, guarded parking, bike lockers

Potential Impact on the Avenue of Fashion: Despite the Streetscape Project bringing new bicycle lanes to the Avenue of Fashion, there is a lack of places to securely park bicycles. The city has installed metal loops on the sidewalk to be used as a possible area to lock bicycles, but its purpose is not so apparent. Installing traditional bicycle racks directly next to businesses may increase ridership.

7.3 Programming Recommendations

Recommendation 1: Speed Limits

Tool Category: Safety Program

Tool Description: Lowering speed limits for some specific road sections

Potential Impact on the Avenue of Fashion: As illustrated in *Figure 11*, the speed limit on Livernois in the Avenue of Fashion is 30 mph. This speed limit does not fall in line with

NACTO's guidelines on "the right speed limits," published in the *City Limits Guide*.⁵⁷ NACTO recommends 25 mph speed limits on major streets and 20 mph speed limits on minor streets. Following NACTO's guidelines and reducing the speed limit on the Avenue of Fashion has potential to improve safety for cyclists and pedestrians, while also enhancing environmental quality by reducing noise levels and potentially cutting emissions.

Recommendation 2: Bicycle Access Programs

Tool Category: Education and Bicycle Access

Tool Description: Programs include bike giveaways, loaner programs for temporary use, fleet programs that supply organizations with communal bikes, and service and repair initiative to keep bicycles in good condition.

Potential Impact on the Avenue of Fashion: Part of the reason for the lack of bicycle traffic can be due to difficulties with accessing bicycles. MoGo stations exist on the Avenue of Fashion, which means there are bicycle-sharing programs, but they require payment. A simple way to increase bicycle users could be to subsidize bicycle purchases or create a program to loan out bicycles for an extended period with minimal costs to those in need.

⁵⁷ NACTO. 2020. *The Right Speed Limits*. City Limits.

8 CONCLUSION

Throughout this report, we have looked at supportive development from several scales and perspectives. First, we introduced the concept broadly, establishing the three components of land development, street infrastructure, and programming, as well as its sensitivity to the specific context of places and communities. We then took a step back to recognize that advocates of walking and biking come from a wide variety of backgrounds. Next, we narrowed our focus to the City of Detroit, highlighting some recent initiatives that showcase the kinds of supportive development work that is already happening. Further focusing our supportive development lens, we took stock of a neighborhood that has seen some recent investments, the Avenue of Fashion. Using all this information, we compiled a toolbox designed to help identify supportive development approaches that might be applicable to Detroit. Finally, we offered some analysis to make more sense of the toolbox within the context of Detroit and the Avenue of Fashion.

The construction of this report and the formulation of the toolbox were not without their challenges and limitations. One challenge our team faced was determining the scope of the built and non-built environment to include in our promotion of walking and biking. Cities are such complex, interconnected organisms that there are any number of different ways to slice the things that are happening within them. We ended up settling on the idea of supportive development and its three components as we felt it captured a manageable scope of walking and biking interventions. If we did this project again, we might have come up with a different framework accompanied by its own set of tools and recommendations.

There are numerous approaches to promoting walking and biking that could be successful in Detroit that we did not include in our toolbox. Through some of our discussions with neighborhood representatives, it was clear that there are opportunities to improve walking and biking by reshaping the types of retail and businesses in the community. However, this specific realm of urban planning falls outside the scope of this supportive development toolbox. Including themes like this would have broadened the scope of work and, ultimately, limited the depth with which we could approach our task. More broadly, we were limited by the inherent people-focused qualities of the programming component of supportive development. In the relatively short timeframe of this project, it was difficult for us to gather a breadth and depth of programming-related information comparable to the other two components that are more easily observable.

Finally, we would like to recognize the interesting role that the toolbox fills, our reasons for restricting this role, and the opportunities this presents. The toolbox fills an interesting role of simply providing a wide range of options for supportive development without providing much direction on which tools to use and how to use them. There is no weighting mechanism to show which tools should be prioritized nor detailed descriptions of how each tool should be implemented. In such a diverse city as Detroit, there is no single weighting or organizing mechanism that would have accurately captured the priorities of every community. The goals of one community may be different from those of another, meaning they would use the toolbox differently. We also wanted to be careful in how much we were recommending and prescribing certain tools. We are not experts on planning and development in Detroit and sought to empower communities to make their own decisions about what is most important.

Limiting the scope of the toolbox presents opportunities for future integration with other assessment frameworks. For example, the Center for Disease Control and Prevention (CDC) has developed the Active Communities Tool (ACT) to help communities improve built environments to promote physical activity.⁵⁸ The Michigan Fitness Foundation developed a similar tool called Promoting Active Communities (PAC).⁵⁹ Both are examples of assessment frameworks that communities could use to identify strengths and weaknesses of their active transportation landscape. After which, communities could look to the supportive development toolbox for potential approaches to address these weaknesses that also work to strengthen and enhance the goals of the community.

As we conclude, we hope that this guidebook is a mere step in the greater journey towards a more walkable, bikeable, and, therefore, livable urban environment. With so many opporunities and increasingly more momentum, Detroit is well-poisitioned for a supportive development future.

⁵⁸ CDC. 2020. The Active Communities Tool Assessment Modules.

⁵⁹ Michigan Fitness Foundation. *Promoting Active Communities*.

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U.S. Census Bureau. 2024. 2018-2022 American Community Survey 5-year Estimates.

APPENDICES

Appendix A: East of Livernois vs West of Livernois

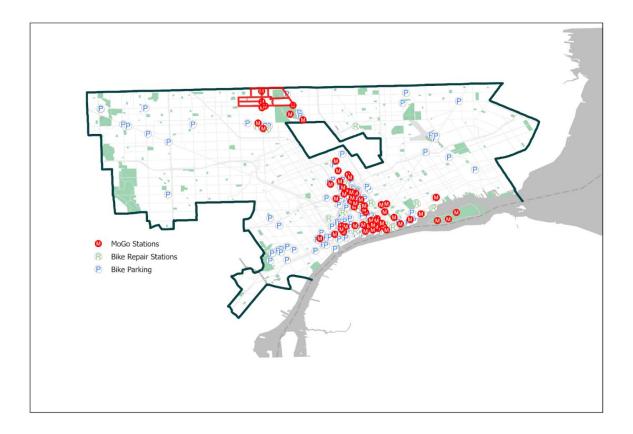
Weighted average comparison of the two sides: East of Livernois vs West of Livernois

	East	West
Median household income in the past 12 months (in 2022 inflation-adjusted dollars)	\$ 108,761.96	\$ 48,106.95
Median Age	47.27	40.52
Average Household Size	2.47	2.36
Commute time to work:		
Less than 15 minutes	14.35%	8.49%
Less than 30 minutes	55.10%	48.80%
Less than 45 minutes	20.01%	25.69%
More than 45 minutes	10.54%	17.02%
Owner occupied: no vehicle available	1.50%	4.89%
Renter occupied: no vehicle available	0.67%	3.29%
Owner Occupied Housing Units	83.09%	58.87%
Renter Occupied Housing Units	16.91%	41.13%
Occupied Houses	94.83%	92.68%
Vacant Houses	5.17%	7.32%
Method of Transportation to Work:		
Car	78.49%	81.90%
Public Transportation	3.41%	7.80%
Taxi	0.00%	1.77%

Motorcycle	0.00%	0.00%
Bicycle	0.00%	0.00%
Walked	2.64%	0.47%
Other means	0.32%	1.57%
Worked from home	15.13%	6.50%
Race:		
White alone	19.74%	1.42%
Black or African American alone	75.72%	86.45%
American Indian and Alaska Native alone	0.00%	0.32%
Asian alone	0.51%	8.58%
Native Hawaiian and Other Pacific Islander alone	0.00%	0.00%
Some Other Race alone	0.80%	0.00%
Two or More Races	3.23%	3.23%
Households with one or more people 65 years and over	43.69%	46.05%
Households with no people 65 years and over	56.31%	53.95%

Appendix B: Detroit Cycling infrastructure Map

The map shows the cycling amenities present in Detroit. The red highlights our study area. The blue P's represents bike parking, red R's represents bike repair stations, and the red M's represent Mogo bike sharing stations.



Appendix C: Detroit Bike Lanes

The map shows where bike lanes are present in Detroit. The green lines show the bike lanes. The red highlights our study area

