CITY of DETROIT

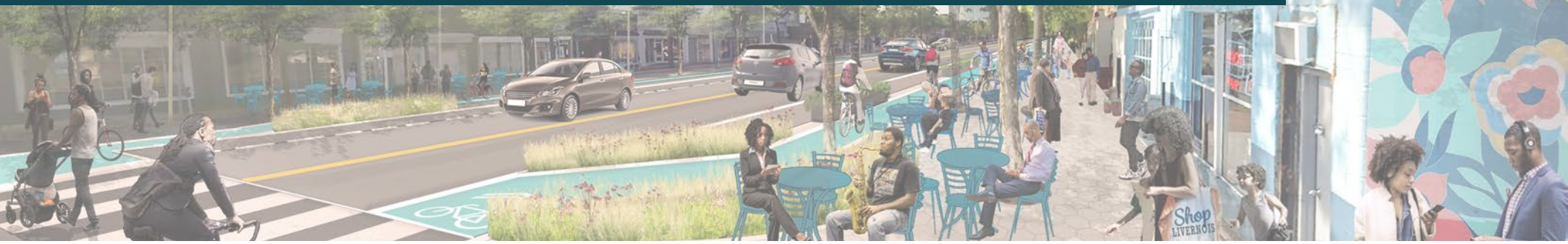
DCDC
University of Detroit Mercy
School of Architecture

LIVE 6

SPACKMAN
MOSSOP AND
MICHAELS

LIVERNOIS AND MCNICHOLS CORRIDOR

PUBLIC REALM PLAN



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EXECUTIVE SUMMARY

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EXECUTIVE SUMMARY

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EXECUTIVE SUMMARY IS DEPENDENT UPON FINAL DOCUMENT COMPOSITION

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INTRODUCTION 2

HISTORY OF THE AREA

> 20TH CENTURY HISTORY

The Livernois and McNichols area was first surveyed in 1816 and was farmland until the area was annexed by the City of Detroit in 1922 and subsequently subdivided for urban home construction in the 1920s. In 1927 both Marygrove College and the University of Detroit opened their new campuses at their current locations near the intersection of Livernois Avenue and McNichols Road. The area was also impacted by Henry Ford's nearby Highland Park Plant, which spurred suburban development in neighborhoods around Livernois and McNichols neighborhoods. Commercial land was largely developed during a WWII boom, contributing to the development of the Livernois corridor as a primary retail destination, along with McNichols, Puritan and other thriving neighborhood commercial streets. The John C. Lodge Freeway was built in 1959. In the 1960s, the area became a destination for African American middle and upper class families, contributing to today's strong communities and the arts and business culture along Livernois and McNichols.

Winkelman's department store on McNichols Rd. at San Juan Dr., 1940's. (Flicker user Howard258)

> THE AVENUE OF FASHION

From the 1950s to the 1970s the stretch of Livernois from 7 Mile to 8 Mile became known as the Avenue of Fashion as shops bustled and a pedestrian retail corridor thrived. Businesses like B. Siegel, Woolworths, and Winkelmans were destination shopping locations known for quality and customer service. Baker's Keyboard Lounge, America's oldest operating jazz club, opened in 1934 and continues to anchor Livernois at the corner of Eight Mile, leading a rich musical legacy in the area.

Livernois Avenue at McNichols, mid 1960s. (University of Detroit Mercy)

> TODAY'S COMMERCIAL CORRIDORS

Retail activity along Livernois began to decline in the 1970s, as did the businesses along McNichols that bridged Detroit Mercy, Marygrove and the neighborhoods. This trend is still evident today with a large number of vacant properties along both corridors. Nevertheless, some new businesses opened along Livernois in the 1980s and 1990s, and retail activity in the 2000s set the stage for today's resurgence. Joe's Gallery, 1917 American Bistro and Simply Casual are among the businesses that jump started the current retail revitalization along the Avenue of Fashion. In 2006, the median along Livernois was constructed, which greatly reduced speeds and accidents but remains unpopular among local residents and businesses primarily due to inconvenient turn-arounds.

In the last 5-10 years, the Livernois corridor has benefited from revitalization efforts led by the City of Detroit, strong business leaders, and support from local organizations and institutions. This effort has been guided by the University Commons Organization and a bevy of partners, and includes initiatives like a facade improvement program, Revolve Detroit's pop-up to permanent retail program, the Livernois Community Storefront, and annual events like the Jazz on the Ave. The commercial corridors benefit from dense surrounding neighborhoods that are well-positioned to support new business.

VISION STATEMENT FOR THE CORRIDORS

> A PLAN TO GENERATE EXPONENTIAL INCREASES IN INVESTMENT

As seen through the history of the Livernois and McNichols corridors, this area has served the people of Detroit in a multitude of ways for almost a century. For local business owners, investors, and entrepreneurs, these streets have provided attractive places of commerce, business establishment, and growth. Local retailers prominent in the 1950's to 1970's found success in running their businesses along a main retail-pedestrian hub of the city. Like most successful businesses and retailers, they followed one of the most foundational business strategies of "going where the people are."

And again today, the same strategy proves to be key. New local businesses are re-pioneering the corridors of Livernois and McNichols in places which currently have the most pedestrian traffic and the most potential for commercial growth and increased pedestrian movement. New businesses have been opened within the last few decades, and even within the last few years, on Livernois within the high-density retail hub known as the Avenue of Fashion, and along McNichols in places with a density of existing buildings and other businesses near by that attract pedestrians.

It could be understood then, that private investment in the form of business and retail development is usually targeted within areas of busy activity and movement, places that attract the presence of customers, create foot traffic, and provide visibility. The first premise of real estate investment has been explained for decades as "location, location, location." Where is my business going to be seen and noticed? Where do the target customers already go to spend their time and money?

It could be said that people are attracted by the businesses and not the other way around. But when people are only attracted by businesses then there is solely justification for people to come, obtain goods or services and leave. This is the ultimate result of strip centers, big-box stores and low-density commercial development. These developments cater to vehicular use over pedestrian use. The effect is quick, efficient, one-stop shopping with half empty parking lots and completely empty sidewalks. Local businesses and restaurants have little contact with people and are not given the opportunity to attract new customers. Already established businesses with name recognition and a known service are able to thrive in this environment, while new local businesses struggle to attract the customer base that they need.

On the other hand, investment given to streetscapes, to reinforce them as a key interface in the neighborhood, between the people of the community and the local businesses, will produce an exponential increase in additional investment in the area over time. Through the creation of a foundation for the revitalization of the area, the upfront investment costs will become seemingly negligible in comparison to the booms in private investment and development along the streets and within the neighborhoods. This area will become a hot-spot of growth, attracting home-owners, university students, entrepreneurs, developers, and visitors.

Not only will local businesses be positively impacted by investment in the streetscape of these two corridors; the improved streetscape itself will provide amenities to the people of the community, while an increase in commerce, activity, and interaction will support the health, safety, and increased opportunity for the community as a whole.

GOALS OF THE PLAN 3

THE PUBLIC REALM PLAN

> THE PURPOSE OF THE PLAN

The streets of a neighborhood are its lifeblood. Healthy and vibrant communities are centered around streets that are full of life, streets that attract people to walk, shop, and visit with neighbors, and streets that are safe for cyclists and pedestrians. Cities with great streets offer more opportunity for economic growth, a better quality of life for the surrounding neighborhoods, and support the development of an empowered, active and connected community. The purpose of this study is to propose ways for the City of Detroit and the local community to invest in streets and public open space, and create the foundation for an economically vibrant and socially cohesive community. With this purpose in mind, the Public Realm Plan has been uniquely crafted with three overarching goals as standards for the improvement of the streetscapes and public realm spaces of the study area.

> GOAL #1: IMPROVE PEDESTRIAN EXPERIENCE

The first overarching goal of the plan is the improvement of the pedestrian experience along the Livernois and McNichols corridors. The objective is to make the streets safe places for pedestrians, young and old. Crossing the street should feel safe. The sidewalks should be pleasant places to stroll under shady street trees, while including places to sit in between shopping or dining. There should be convenient, well-marked, safe places to cross in the middle of the block. Slowing cars down through traffic calming measures will make standing at the corner waiting to cross the street a more human experience, and make getting in and out of your car while parking less daunting.

To achieve this richer pedestrian-oriented street life, the plans propose to redesign the intersections to include “curb bumpouts” which will make the distance between one side of the street and the other much shorter. The plan also proposes increases in mid-block crossings with better markings so people always feel like it is convenient to cross at a designated cross walk. To keep people from speeding, slightly narrowing the travel lanes has been proven to slow cars down and keep them closer to the speed limit.

> GOAL #2: ENHANCE LOCAL BUSINESSES

The second overarching goal of the plan is to enhance the local businesses along the corridors. Making the streets safer and more pedestrian friendly is a first step. Once you get to Livernois and McNichols it needs to be easy to walk around and enjoy the restaurants, cafés and local shops. But how you get there is important as well. It should be easy to drive your car to the area and find a parking spot. It should also be easy to hop on your bike and make your way to a local coffee shop. Also, local businesses should be able to expand onto the sidewalks and have cafe tables and clothing racks on the street to bring the dining and shopping experience into the public realm.

To improve the business climate along the Livernois and McNichols corridors, the plan suggests eliminating the J-turns, or Michigan lefts, from Livernois Avenue. This will make it easier for local traffic, as well as for people coming to the neighborhood with the purpose of dining or shopping, to arrive at their desired destination along a more direct route. Maintaining the street parking along both corridors makes visiting a local retailer that much easier. The plan also proposes protected bike lanes along the entire length of both corridors. Being able to hop on a bike at Detroit Mercy or McNichols and safely make your way to the Avenue of Fashion for lunch, or vice versa, would be a real benefit for all of the businesses along the corridors. Wider sidewalks at certain key areas, along with the other pedestrian improvements, will make introducing dining and shopping onto the street easier, and make strolling the street to shop more attractive.

> GOAL #3: BUILD ON THE UNIQUE IDENTITY OF THE AREA

The third overarching goal of the plan is to build on, and enhance, the unique identity of the area and its history. Reintroducing tree-lined streets

with amenities such as benches, special paving, and local art installations is fundamental to reinforcing the character of the streets and the community. The experience of the street at night should also be a priority. People should feel safe and the sidewalks should be well-lit in the evenings. Unique signage, lit to add excitement and vitality to the street in the evenings, is key to promoting the businesses along the corridors as well as enhancing the identity of the corridors.

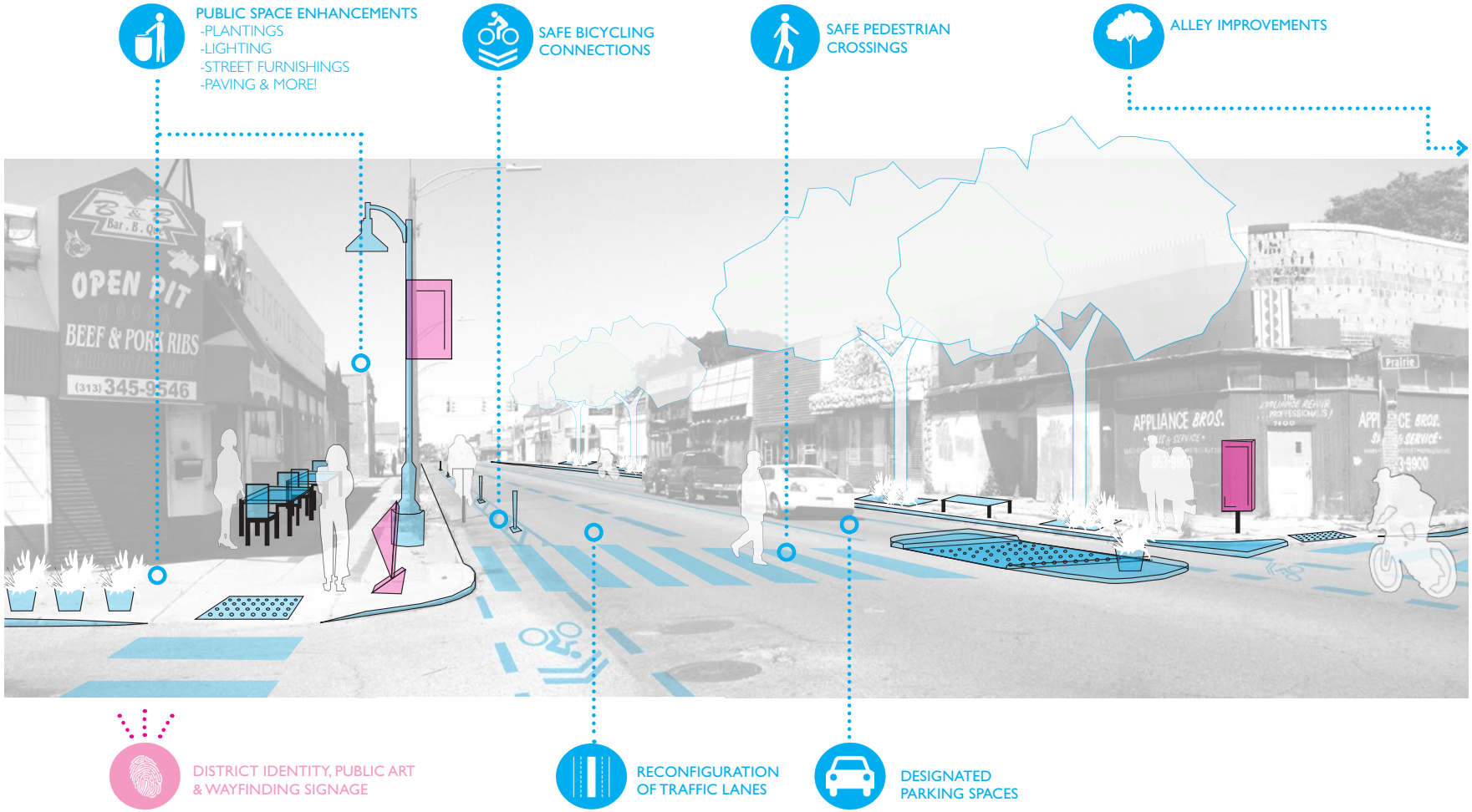


FIG 01 *project scope diagram*

PAST PLANNING EFFORTS

4

PAST PLANNING EFFORTS

> PLANNING EFFORTS TIMELINE

During the initial phase of the planning process, a review was conducted of past planning efforts in the Livernois and McNichols area that have taken place within the past 15 years. This review was done in an effort to better understand our current planning context and the planning work that has come before, as residents, business owners, and institutions invested considerable time and energy in past planning efforts. This plan builds upon key ideas from past planning efforts that still remain relevant. These include the desire to coordinate investments to create vibrant, walkable commercial corridors and public spaces that support commercial and residential development, and better connect local institutions with the adjacent community.

As a whole, the past planning efforts were underfunded, limited in scope, and not comprehensive, largely focusing on addressing immediate issues at hand through short term, responses. For example, re-configuring the median, was not considered to be part the LSEP scope in 2012.

Many of the past planning efforts did not include bicycle infrastructure at all, or only proposed minimal investments, such as sharrows. All of the past planning efforts reviewed called for further planning and studies for the McNichols and Livernois corridors, which previously have not had funding, capacity, and/or coordination to carry them out.

Detroit has changed a lot in recent years. There are now more resources available for business development, and many new businesses have opened along the Livernois and McNichols corridors. The City has come a lot further in developing a plan for incorporating bicycle infrastructure across the entire city. In recent years, the need for development of green stormwater infrastructure has become more evident, and some federal funding has become available. Overall, there is now more capacity and coordination within City departments and local institutions, including Live 6 and University of Detroit Mercy. We are now in a better position to work together to address larger, longer term issues and develop a more comprehensive, holistic plan for the Livernois and McNichols corridors.

PAST PLANS REVIEW

> WAYS OF LIFE: WAYNE COUNTY - UNIVERSITY COMMONS, 2001

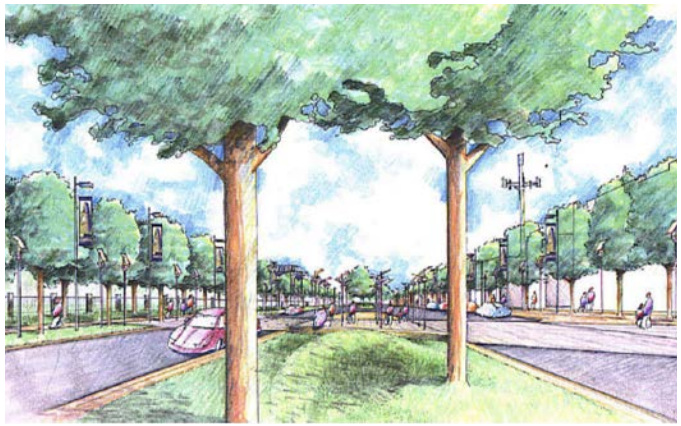
PROJECT AREA: Livernois: Lodge to McNichols & McNichols: Livernois to Wyoming.

OVERVIEW: Wayne County's Ways of Life concept uses the extensive network of existing roadways as a framework for crafting sustainable development strategies to improve quality of life for greater Detroit's residents and visitors. This plan for the Livernois-McNichols area utilizes branding, physical design and economic strategies to re-establish aging commercial corridors through promotional development of business and community interests.

KEY RECOMMENDATIONS:
> Link the UDM campus, commercial frontage, and community on Livernois.
> Calm traffic and create a stronger pedestrian orientation and visual appeal.
> Recommendations for Livernois: 30-foot wide landscaped median with curb bumpouts at intersections and mid-block pedestrian crossings, street trees, special paving, pedestrian lighting and traffic signals.
> Similar recommendations were made to improve the pedestrian environment on McNichols.
> Create a corridor "brand," establish the University Commons Organization, create gateways at the Lodge Freeway and 8 Mile.
> Additional redevelopment opportunities, such as housing across from Marygrove on McNichols and a UDM mixed use welcome center on Livernois.

University Commons branding strategy

Redevelopment strategy on McNichols



Livernois boulevard concept

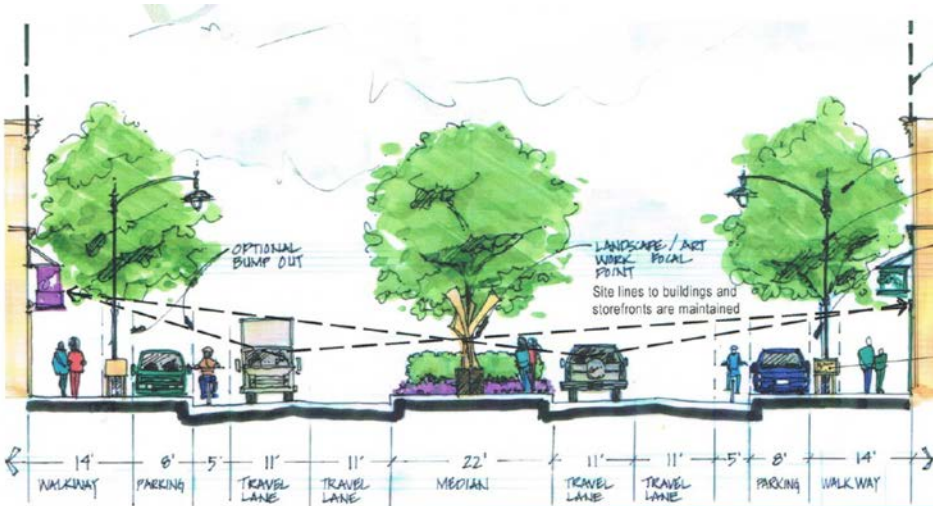
Livernois-Lodge gateway concept

> LIVERNOIS BUSINESS DISTRICT: CHARRETTE & PRELIMINARY RECOMMENDATIONS 2007

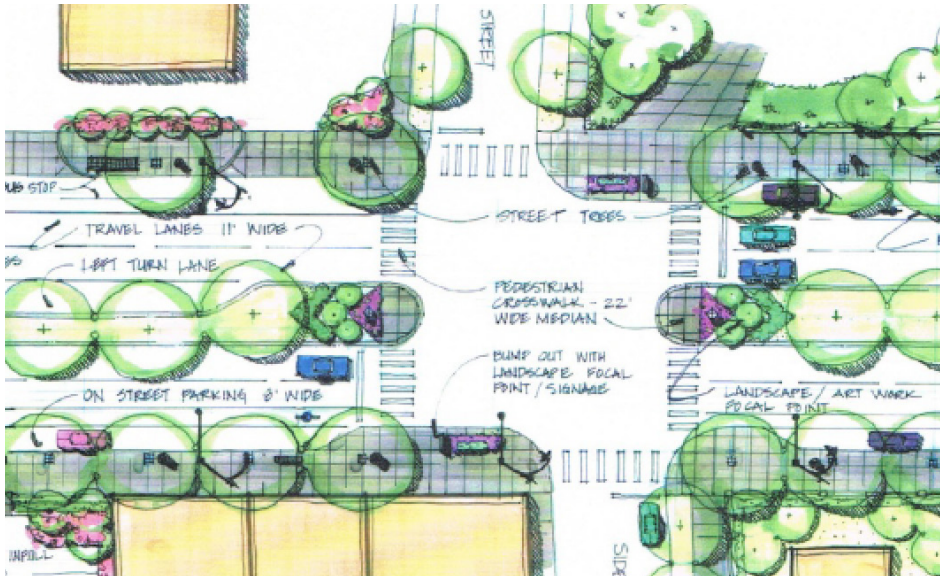
PROJECT AREA: Livernois: John C. Lodge Fwy. to 8 Mile Road

OVERVIEW: This planning effort led by Rainy Hamilton Jr. aimed to support University Commons Association in creating a viable business district that supports adjacent neighborhoods, improves pedestrian circulation and parking, and addresses the issues created by the newly constructed median. While it was understood that the district needed a comprehensive Master Plan, this effort was focused on identifying and prioritizing concerns and suggesting a course of immediate, implementable actions. The group agreed that policy and programming actions were most important, followed by physical improvements and aesthetics.

RECOMMENDATIONS:
> Add irrigation, power, signage and landscaping to the Livernois medians.
> Conduct further traffic studies and modify the median accordingly with enhancements and/or removal.
> Five foot unprotected bike lanes were proposed, as well as a variety of pedestrian amenities.
> The development of concise and enforceable facade and signage guidelines was recommended.
> The plan discouraged surface parking adjacent to the right-of-way and proposed knee-walls and landscaping to buffer existing lots.



Section sketch



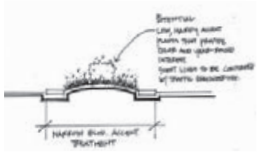
Typical intersection sketch

> **LSEP:** LIVERNOIS STREETSCAPE ENHANCEMENT PLAN, 2012

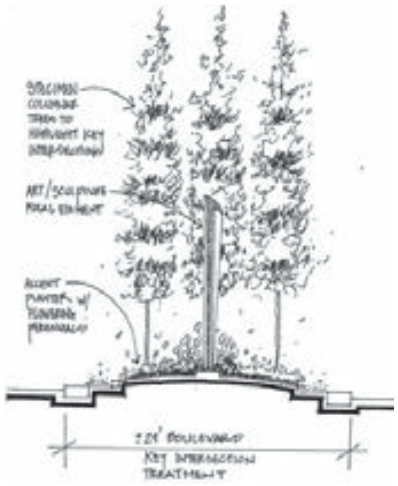
PROJECT AREA: Livernois: Margareta to St. Martin Street (partially built).

OVERVIEW: This project addressed public discontent with the median that was constructed in 2006. The planning process ran from January through September 2012. This plan aimed to create an attractive streetscape that fosters retail competitiveness and creates a destination, improves pedestrian and vehicular accessibility and provides overall safety for its users. The major outcome of this plan was the construction of additional planter beds, irrigation, and trees planted in the median. Some ADA sidewalk improvements were made. Reconfiguration of the median, although discussed, was outside the scope of this plan.

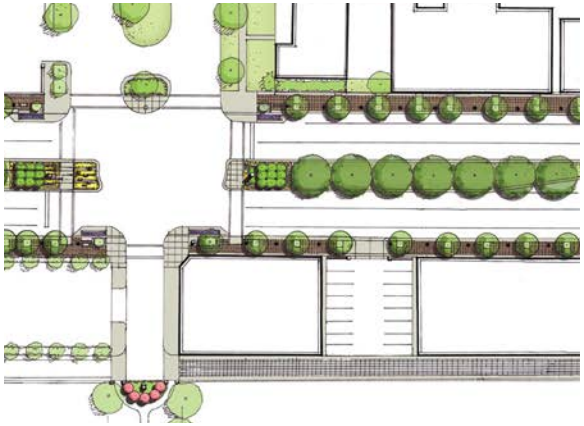
KEY RECOMMENDATIONS:
> Shared car/bike lanes (sharrows) and/or unprotected bike lanes were considered and had community support, but were not included in construction documents.
> The plan considered shared district parking lots for public parking during the day. Public comments show support for parking lot 'knee walls.'
> Pedestrian amenities that were recommended but not included in construction documents were: bumpouts at key cross streets, signage, sidewalk improvements, street furniture, pedestrian lighting, bike racks, trash receptacles.
> The plan also considered using alleys for parking and a pedestrian environment, including artwork on backs of buildings, ivy covered walls and permeable paving.



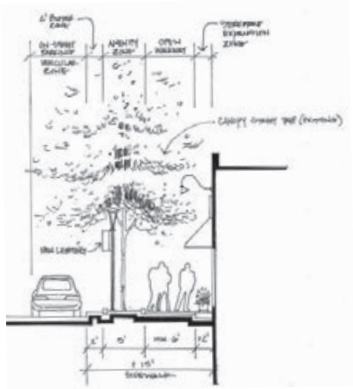
Narrow boulevard treatment



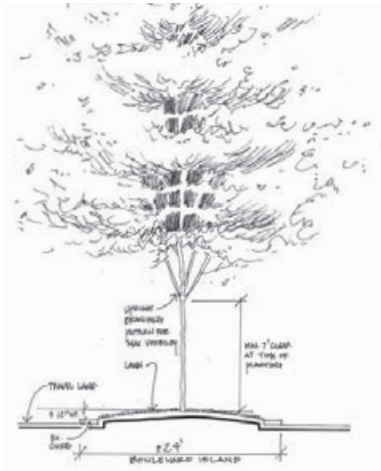
Key intersection median treatment



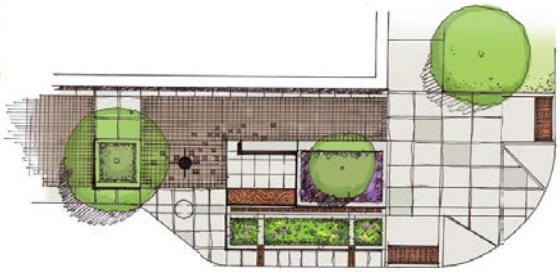
Redevelopment strategy on McNichols



Sidewalk experience



Full boulevard width

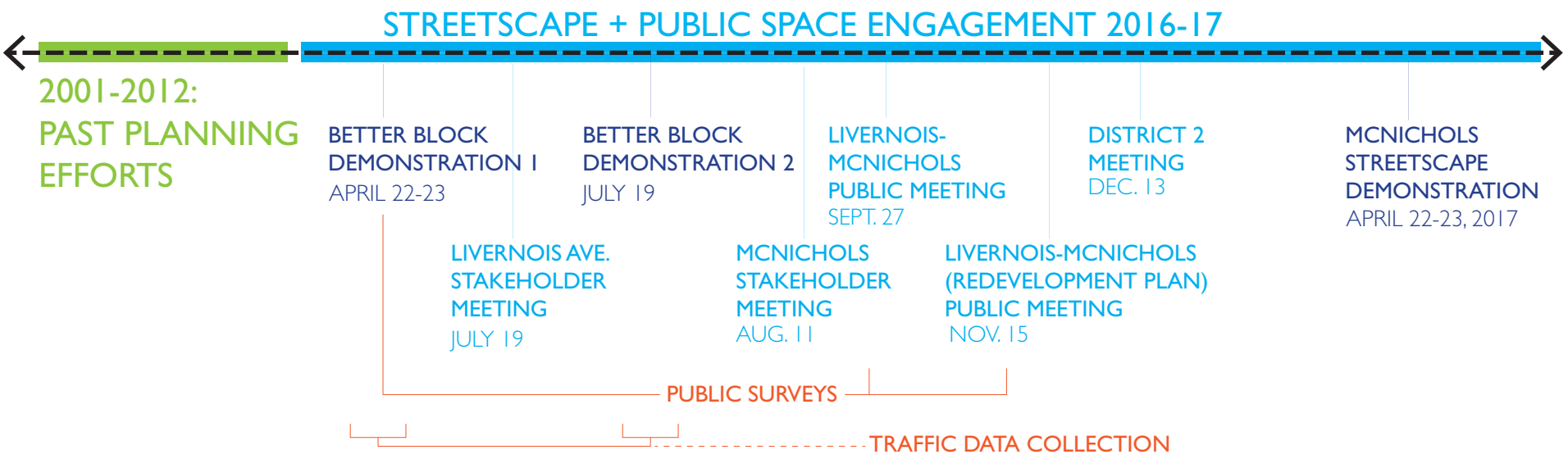


Bumpouts

CIVIC ENGAGEMENT 5

CIVIC ENGAGEMENT

> TIMELINE OF COMMUNITY ENGAGEMENT ACTIVITIES



Civic engagement for this planning process builds upon what was heard and documented during previous planning projects and the past efforts of the Livernois and McNichols communities. This phase of engagement for the streetscape and public space plan began in April 2016 with the first Better Block Installation. Better Block is further detailed in the section. The initial Better Block occurred along Livernois south of McNichols. A more expansive Better Block happened further north along Livernois north of Seven Mile in August 2016. A third installation along McNichols between the two schools is planned for April 2017. Better Block allows the City and planning team to test streetscape strategies such as bike lanes and bump outs, and gauge appetite for more active street life along the commercial corridors. Better Block events included surveys and other feedback mechanisms to track people's experiences with the altered streetscape. Traffic and bike data collection coincided with the installations.

In addition to Better Block a series of community meetings informed this work. These meetings began with stakeholder meetings for Livernois and McNichols property and business owners. Three larger public meetings, including one collaborative meeting with the economic development planning team, occurred throughout Fall 2016, culminating at the District 2 holiday meeting in December.

Throughout this process, community and stakeholder feedback informed the planning trajectory. Key examples include the development of streetscape configurations for both roads and focused conversations about both emergency vehicle access and side street spillover traffic. Intentional interdepartmental collaboration also contributed to these conversations. It is important to note that civic engagement by the City will continue as this project moves toward implementation.

> INTER-AGENCY + DEPARTMENTAL COLLABORATION

The following agencies worked collaboratively the planning team to provide technical insight to help guide the planning process. An interdepartmental and interagency core team met on a bi-weekly basis and other departments were consulted for key decisions. The planning team provided regular briefings to the Mayor's staff.

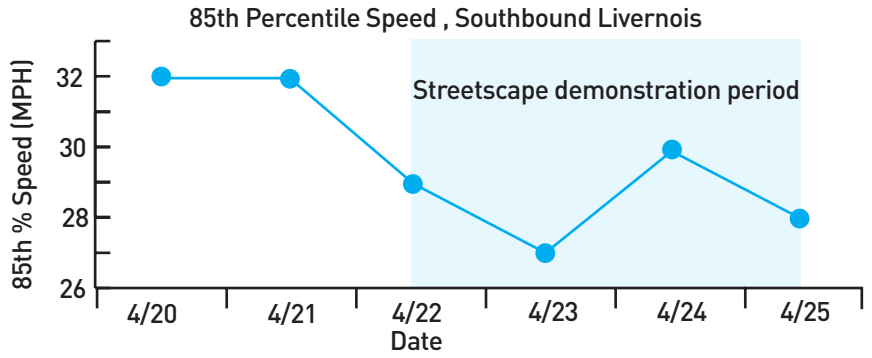
- Planning and Development Dept. (PDD)
- Dept. of Neighborhoods (DON)
- Housing and Revitalization Dept. (HRD)
- Dept. of Public Works (DPW)
- Detroit Water and Sewerage Dept. (DWSD)
- Detroit Dept. of Transportation (DDOT)
- Detroit Fire Dept. (DFD)
- Detroit Police Dept. (DPD)
- Detroit Economic Growth Corp. (DEGC)

COMMUNITY ENGAGEMENT EFFORTS

> BETTER BLOCK 1 / SOUTH LIVERNOIS // APRIL 22-23, 2016

This temporary streetscape demonstration kicked off engagement efforts for the public realm planning process. It was located on Livernois Ave, just south of Grove Street across from the University of Detroit Mercy School of Architecture, and tested out several different street design strategies, including a two-way cycle track on the northbound side of Livernois Ave, and angled parking on the southbound side. Livernois was reduced to one travel lane in each direction. The event also sought to physically and socially bridge the divide between the UDM campus and the community. A temporary pocket park featuring with local food and artisan market vendors was set up in the University-owned empty lot, which has spurred plans to develop a more regular artisian market in that location.

Traffic data gathered prior to and during the event showed that the installation decreased 85th percentile speeds by over 10%. Traffic flow kept moving and dangerous speeding was mitigated. Fourty-two people filled out a feedback survey, which provided insight into community preferences for corridor improvements.



TOP STRATEGIES TO MAKE LIVERNOIS 'MORE VIBRANT':

"MORE SHOPS"

"MAKE IT WALKABLE"

TOP FOUR ELEMENTS THAT RESPONDENTS WANTED TO SEE MADE PERMANENT:

1. BIKE LANES
2. CROSSWALKS
3. ANGLED PARKING
4. POCKET PARK/MARKET

Two-way cycle track on Livernois

Pocket park with local vendors and entertainment


FEEDBACK SURVEY

BUILDING A BETTER BLOCK DETROIT

1. What neighborhood/city do you live in?
BAGLEY - DETROIT, MI
2. Was the event what you expected? Better? Worse?
YES. GREAT TO SEE LOCAL BUSINESSES AND THE COMMUNITY TOGETHER
3. If one part of the block pop-up was going to remain permanent on this block, what should it be? (For example: bike lanes, pocket park, seating, crosswalk, diagonal parking etc.)
BIKE LANES.
4. What are other block improvements you'd like to see? (For example: lighting, walking trail, art, businesses, building improvements, etc.)
HISTORIC markers along walking path to tell story of Livernois
5. What is one thing that would make Livernois more vibrant?
Restaurants w/ outdoor seating, more live music, a little cleanup
6. If there was a farmer's market in the vacant lot across from UDM, when would you most likely visit?
☐ Wednesday 4-7pm
☐ Friday 4-7pm
☒ Saturday 12-5pm
Name: DESIRAE TOLBERT
Email: TOLBERT.DESIRAE@GMAIL.COM
Zip code: 48221

Context map

> LIVERNOIS AVE. STAKEHOLDER MEETING // JULY 19, 2016

This meeting introduced the Livernois-McNichols Streetscape and Public Space Plan to Livernois business and property owners. 18 people attended, largely from the Avenue of Fashion. Feedback was gathered during a Q&A and discussion period as well as a mapping activity during which attendees noted and illustrated ways to improve the Livernois streetscape.

Mapping activity at the Livernois Avenue stakeholder meeting

KEY TAKEAWAYS:

PARKING: Adequate parking is a major concern. Some people are concerned about losing parking spaces, others advocate for encouraging visitors to park in centralized parking areas and walk to destinations. Interest in working with large property owners to create a shared neighborhood parking strategy (for example, New Prospect) and strategies to mask surface parking lots. New development warrants additional parking considerations. More parking data would be helpful.

TRAFFIC & EMERGENCY ACCESS: Traffic counts and speeding data are very informative. Additional data would also be useful. Concern about how much traffic will be diverted due to slower speeds and how that will impact businesses. Questions about transitioning to one lane in each direction also related to adequate emergency vehicle access. Strong interest in a local shuttle linked to centralized parking. **Note: The fire department was consulted following this meeting, which influenced the proposed streetscape designs.**

MEDIAN: Initial issues with the median have been remedied, but there is still room for improvement to create a more welcoming streetscape. Interest in changing the median but questions about feasibility, which the City is investigating.

STREETSCAPE & DEVELOPMENT ZONES: Interest in a unifying identity and treatment, while acknowledging different types of businesses and conditions along the corridor. Interest in increasing density with second floor housing and new development near Detroit Mercy.

STREETSCAPE ELEMENTS: General support for crosswalks, bump outs, and pedestrian-friendly features. Interest in more planters coupled with benches and sidewalk cafes. Concerns about tree roots and ongoing maintenance. More frequent pedestrian lighting and signage could be unifying elements along Livernois.

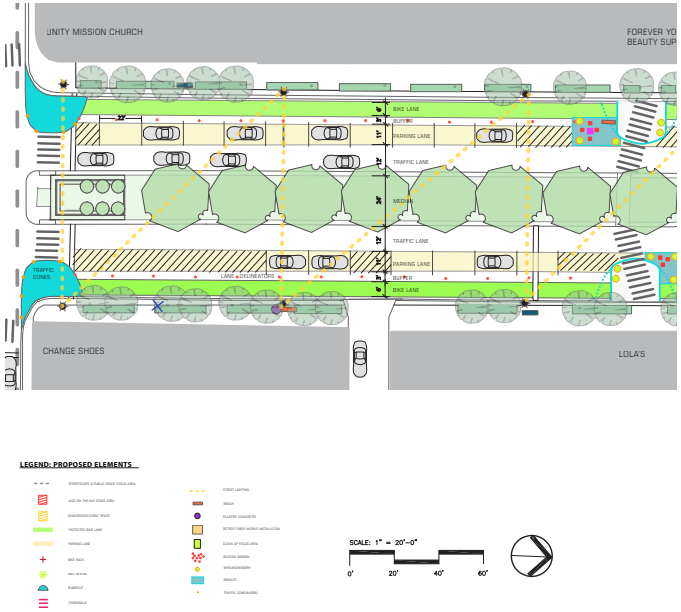
POLICY: There is a need to both increase and implement security measures such as the Green Light program and security patrols, as well as increase code enforcement, especially for signs. Trash and cleanliness is a major immediate need. Need more discussion around green infrastructure and the impact of the new drainage fees.

> BETTER BLOCK 2 / AVENUE OF FASHION // AUG. 6- SEPT. 25, 2016

This ambitious streetscape installation covered three blocks on the Avenue of Fashion, from 7 Mile Rd. to St. Martins Ave. It included single direction protected bike lanes along the curb on both sides of the street, painted bumpouts, corner and midblock bumpouts, seating, planters, string lighting and an art installation in the median. The configuration reduced the travel lanes to one lane in each direction. The kickoff of the temporary installation coincided with the annual Jazz on the Ave event, which brings the largest crowds of the whole year to the district for music, sidewalk sales, food and community. The planning team gathered lots of feedback on the streetscape installation at this event. The City decided to extend the streetscape demonstration project, and the bike lanes were left up until late September.

Midblock crosswalks and bike lane use.

Bumpouts and creative crosswalk painting



Better Block installation map during Jazz on the Ave festival.

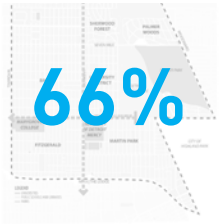
Temporary bike lane on the inside of the parking lane.

> BETTER BLOCK 2 SURVEY RESPONSES

A survey was developed to capture resident and business owner feedback following the completion of the second streetscape installation. The planning team worked with University Commons Organization and the Avenue of Fashion Business Association to get the word out about this survey, which was distributed digitally to residents, community and business associations, as well as via hard copies to Livernois businesses. The survey was open from Oct. 14th- Nov 2, 2016. There was an incredible response to the survey, which captured a broad spectrum of opinions within the community, and helped the planning team understand and address key issues, adjust and prioritize recommendations.

"I walked from my house to Livernois with my two grandchildren. We visited new shops that I had never entered and I have lived in the neighborhood for 30 years."

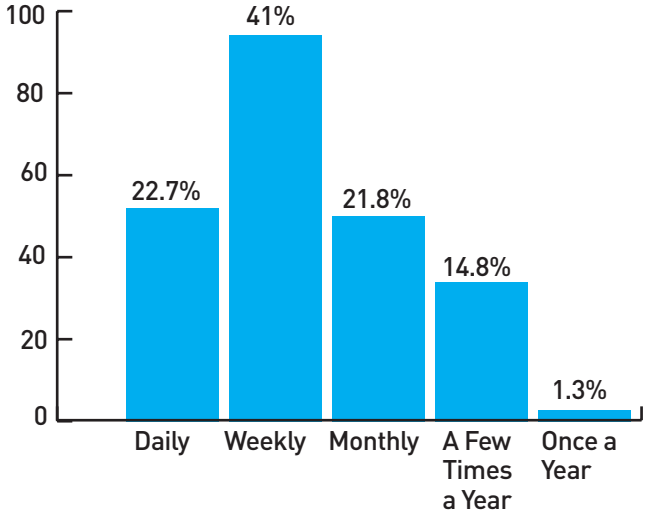
242 TOTAL RESPONSES



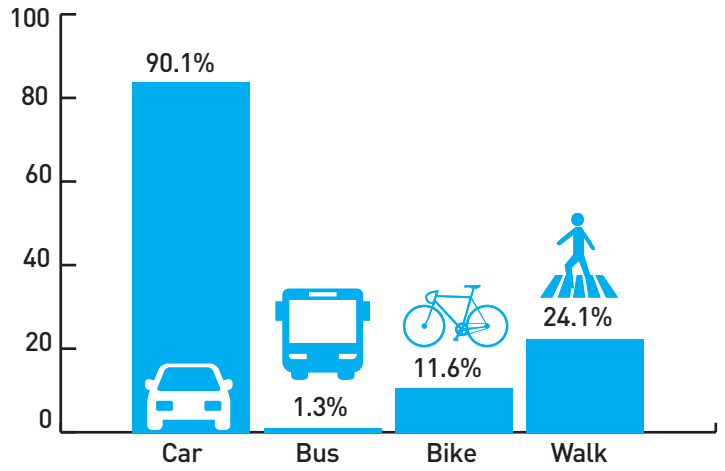
66% FROM ADJACENT NEIGHBORHOODS

"The street demo forced traffic to slow down and for people to be able to see my business."

MOST RESPONDENTS VISIT LIVERNOIS BUSINESSES ON A WEEKLY BASIS



MOST PEOPLE DRIVE TO GET TO LIVERNOIS, BUT NEARLY A QUARTER ALSO WALK!



45% WOULD WALK OR BIKE MORE IF SAFETY IMPROVEMENTS WERE MADE

"I was able to bike on Livernois rather than on the side street. I ride with my son on my bike daily to his preschool in Ferndale and normally have to use the sidewalks until I cross Eight Mile."

Percentage of respondents that think the following elements are a **GOOD OR GREAT IDEA!**

- **73%** CROSSWALKS
- **49%** BUMPOUTS
- **82%** SEATING
- **44%** BIKE LANES
- **90%** PLANTERS

There were multiple ways to leave feedback at the streetscape headquarters during Jazz on the Ave

A couple fills out the streetscape survey

Feedback sticker method on the streetscape elements

> MCNICHOLS RD. STAKEHOLDER MEETING // AUGUST 11, 2016

This meeting introduced the Livernois-McNichols Streetscape and Public Space Plan to McNichols business and property owners. Approximately 30 people attended. Feedback was gathered during a Q&A and discussion period as well as a mapping activity during which attendees noted and illustrated ways to improve the McNichols streetscape.

Mapping activity at the McNichols Rd. stakeholder meeting stakeholder meeting

KEY TAKEAWAYS:

SPEEDING AND AGGRESSIVE DRIVING: The speed limit on McNichols is 25 MPH, but this is rarely followed. Drivers often use the parking lane to pass on the right. Dangerous driving creates unsafe conditions for pedestrians, bicyclists, other drivers, and property, and was voiced as a major concern. An official traffic study to determine counts/speeds would be useful.

TRAFFIC CALMING STRATEGIES: There was a discussion about techniques such as curb bumpouts, more clearly delineated drive and parking lanes, improved crosswalks and tree canopy and how could contribute to traffic calming. Stakeholders were eager to try out these strategies.

SAFE ALLEYWAYS: The alleys north and south of McNichols are not well lit, overgrown in some areas, and sometimes used as a public bathroom. Some business owners have taken the initiative to do board-ups, clear the alleyway and install lighting behind their shops. There was a desire for the City to provide incentives for more businesses to make private improvements like this, and also to begin enforcing building codes.

STREET FURNISHINGS: The need for additional pedestrian lighting and seating, such as benches and cafe tables was noted many times during the mapping activity.

BIKE LANES: There was generally positive support for bike lanes on McNichols. Some people thought having bike lanes might help bring in more business to their shops. Attendees were willing to consider having on-street parking on just one side of the street to accommodate bike lanes, especially i alleyways were improved to provide safe parking options.

> LIVERNOIS-MCNICHOLS PUBLIC MEETING // SEPTEMBER 27, 2016

This public meeting had over 70 residents, business and property owners, and other stakeholders in attendance. The scope of the project, site analysis, community engagement to date, and overall design strategies including three options for Livernois street design were presented. There was a Q&A period and breakout groups allowed for facilitated discussion.

Planning director Maurice Cox speaks at the September 27 community meeting

KEY TAKEAWAYS:

PROCESS IS IMPORTANT: There were many questions and comments about the planning process. People requested a project website to easily share information, and wanted clarity on the timeline, engagement process and funding mechanisms. People were open to change, but also need time to build trust.

BIKE LANES: Bike lanes were supported by many, although not by all. Avid resident cyclists pushed for highly protected bike lanes and were excited for bicycling connections across the corridors and to Palmer Park and beyond. Others wanted to know more about how bike lanes would benefit them and local businesses. Some people were opposed to bike lanes if they took away driving lanes.

THE MEDIAN: There was broad support for narrowing, or in some cases removing the median, as well as removing the Michigan left-hand turns and restoring 90-degree left hand turns.

ONE LANE VS. TWO LANE: Although the extended sidewalk option was attractive to some, many people questioned whether Livernois Avenue would function well with only one lane in each direction at current traffic levels. Primary concerns related to emergency vehicle access and side street traffic, and were later addressed in the planning effort.

CROSSWALKS AND BUMPOUTS: There was broad support for improving and adding crosswalks with curb bumpouts, as well as mid-block bumpouts on longer blocks.

SIDE STREET TRAFFIC: Concerns were raised that the transition from two lanes to one lane during the Better Block installation caused an increase in diverted traffic onto residential side streets, on Warrington and Stoepel in particular.

STREET FURNISHINGS: Benches, trash cans, and pedestrian lightings were widely supported. In general, attendees thought that street furnishings and plantings should first be prioritized in areas that have thriving businesses to encourage growth of those commercial nodes.

> LIVERNOIS-MCNICHOLS (REDEVELOPMENT PLAN) PUBLIC MEETING // NOVEMBER 15, 2016

This meeting was led by HR&A Advisors and Hamilton Anderson Associates, who presented their initial findings for the Livernois-McNichols Market Study and Commercial Corridor Redevelopment Plan. Following the presentation, facilitated breakout groups discussed the types of development they would like to see in the corridor. DCDC provided a brief update on planning work, including coordination with the Detroit Fire Department and side street traffic calming strategies. A board that outlined the function, pros and cons the following strategies was presented for feedback: speed humps, curb bumpouts and chicanes. Residents were in support of all of the strategies, but some expressed preference for chicanes, thinking they would be most effective. Several residents also wanted to include gateway islands as a strategy for consideration.

Side street traffic calming strategies presented at the November 15th community meeting

> DISTRICT 2 MEETING // DECEMBER 13, 2016

At the District 2 holiday meeting, the City Planning Department and Spackman Mossop & Michaels presented near final drafts of proposed design recommendations to approximately 150 people. Boards with existing and proposed sections and perspective renderings and protected bike lane options allowed for one-on-one conversations. The planning team was on hand to answer questions before and after the presentation. In general feedback was very positive, and residents were excited to see the renderings. Questions were asked about timeline and funding mechanisms, and it was requested that the presentation be made publicly available.

District 2 residents and stakeholders listen to the presentation on December 13th

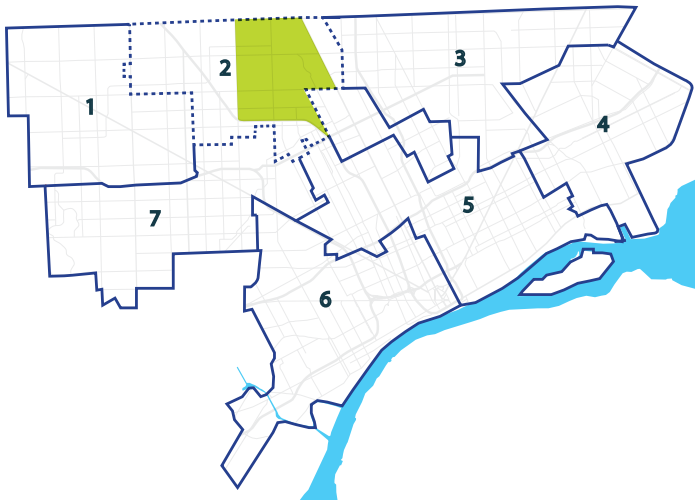
EXISTING CONDITIONS ANALYSIS

6

OVERVIEW

> PROJECT AREA

This streetscape and public space planning effort is one piece of the City of Detroit's Livernois/McNichols Corridor Revitalization Plan, which is a comprehensive planning strategy focused on implementing a coordinated range of transformative initiatives to address physical, social, and economic challenges in this area of Northwest Detroit. The planning area boundaries are: Eight Mile to the north, M-10/Lodge Freeway to the south, Woodward and Hamilton to the east, and Wyoming to the west. The goal of the plan is to create and sustain a vibrant and attractive community by focusing on the following six key initiatives: Safety and Public Services; Planning and Placemaking; Multifamily Residential Development; Neighborhood Stabilization; Small Business and Retail Development; and Transit and Mobility. This work coincides with an interdepartmental focus in the neighborhoods, which includes Motor City Match investments. The streetscape and public space plan is focused on the commercial corridors Livernois Avenue and West McNichols Road. These corridors are anchored by two longstanding academic institutions, Marygrove College and University of Detroit Mercy. Strong and historic neighborhoods Sherwood Forest, University District, Green Acres, Palmer Woods, Bagley, Pembroke, Martin Park, and Pilgrim Village are within the planning area. The Fitzgerald Revitalization Project aims to stabilize a quarter-square mile residential neighborhood through housing rehabilitation, blighted structure demolition, the implementation of a low maintenance landscapes on every publicly-owned vacant lot, as well as the construction of a new neighborhood park and greenway.



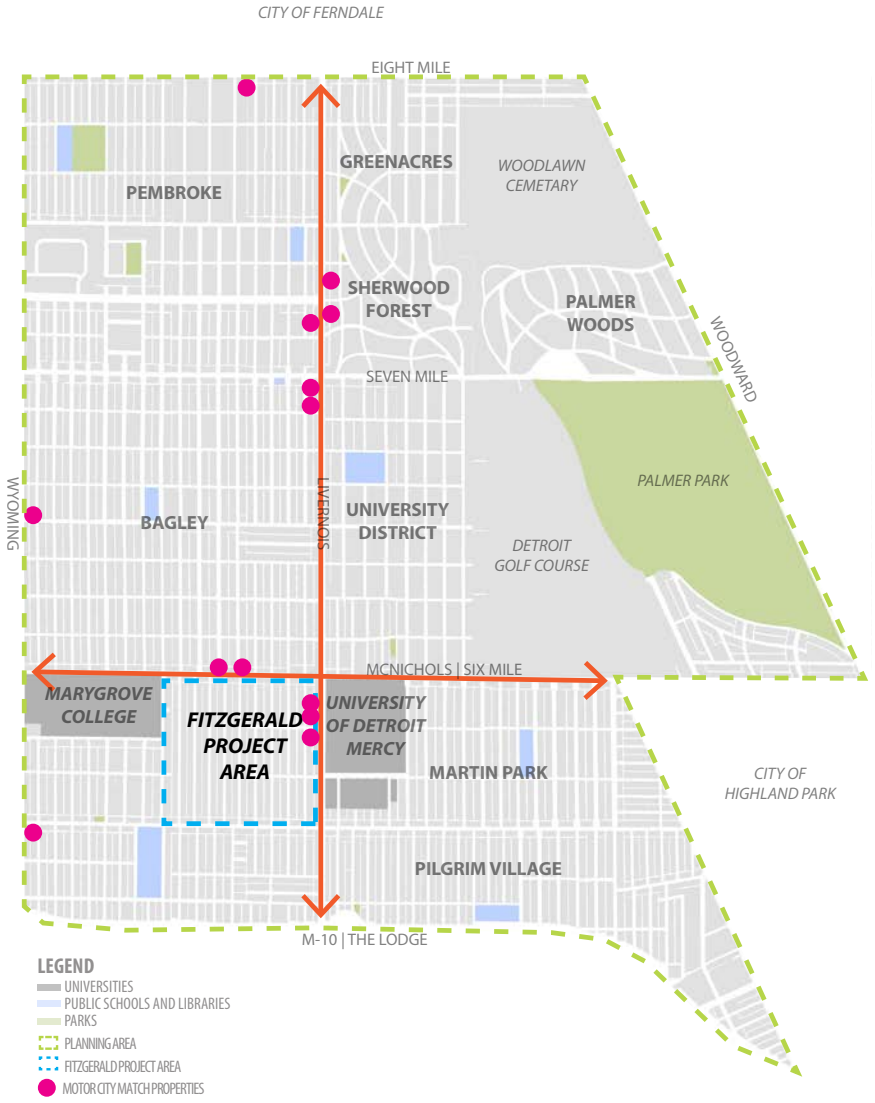


FIG 02 *Planning Area*

> LAND USE

Livernois Avenue and McNichols Road are commercial corridors flanked eight residential neighborhoods. The commercial corridors include a mix of occupied businesses, vacant buildings and lots, institutional and faith-based uses. University of Detroit Mercy (UDM) and Marygrove College are the predominant institutions. Other schools and religious institutions are scattered, and Palmer Park is significant.

24% *of frontage parcels have*
VACANT BUILDINGS

7% *of frontage parcels are*
VACANT PARCELS

65% *of frontage parcels are*
ACTIVE COMMERCIAL

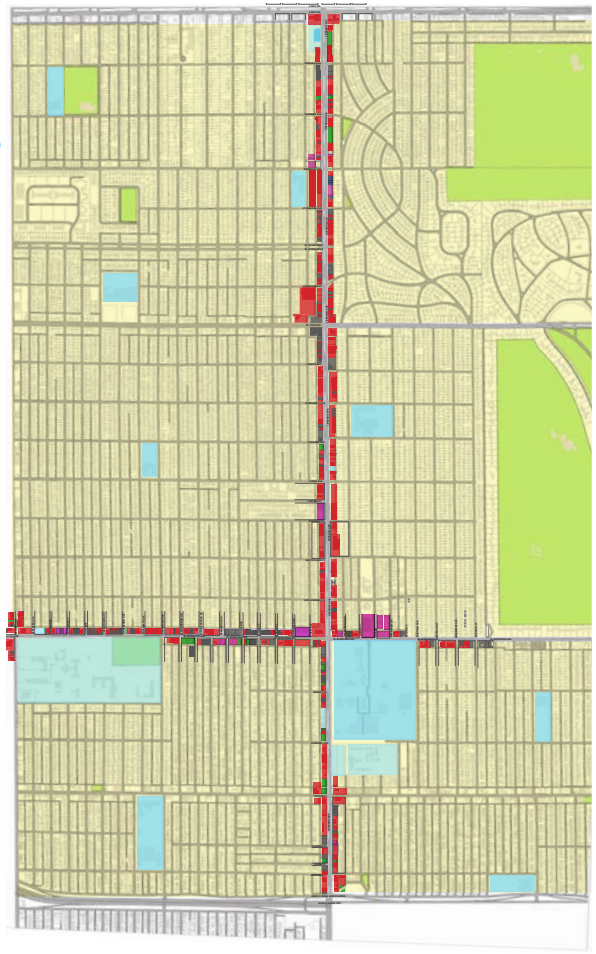


FIG 03 *Land Use*

> SURFACE PARKING ANALYSIS

Surface parking comprises a whopping 33% of the properties along Livernois and McNichols. In almost all cases, surface parking lots are adjacent to the street edge, contributing to an auto-centric character that is unwelcoming for pedestrian. There is also a wealth of street parking along both Livernois and McNichols, which is largely underutilized except in areas of high activities such as the Avenue of Fashion.

33% *of frontage parcels have*
SURFACE PARKING

over
1,200
ON- STREET PARKING SPACES

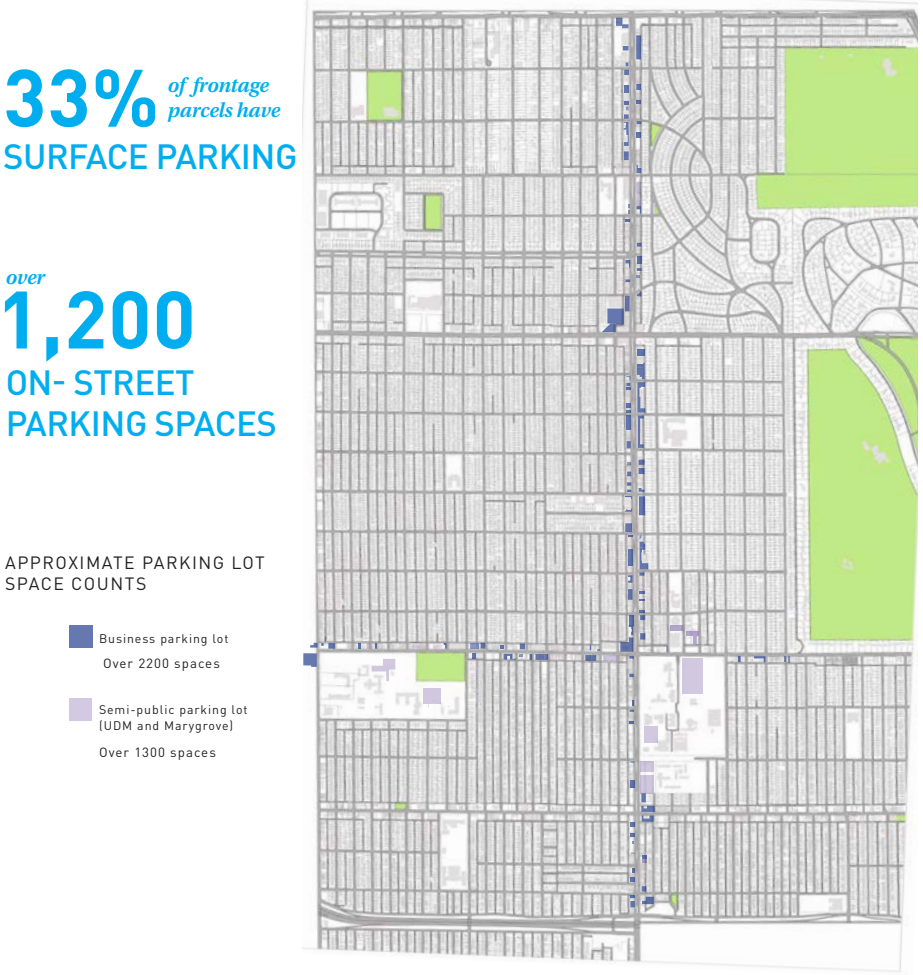


FIG 04 *Existing Parking*

> CIRCULATION

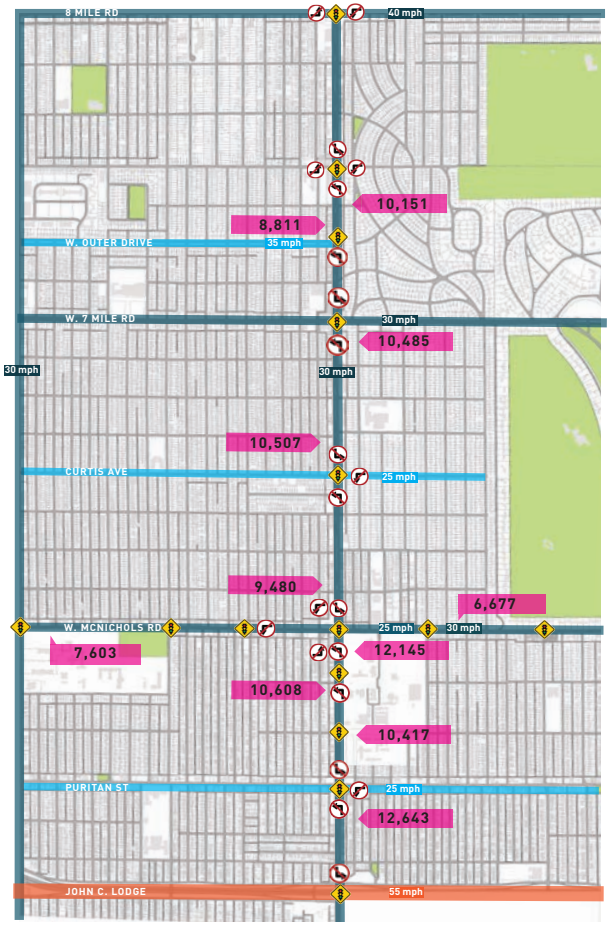
Livernois Avenue is the primary thoroughfare in the area, with approximately 11,000 cars daily. This volume does not warrant the current street design that encourages fast thoroughfare traffic. The Lodge Freeway has an exit onto Livernois which primarily feeds northbound traffic. Secondary routes include Puritan Avenue, Curtis Street and Outer Drive. “J turns” enable left turns along Livernois.

on average

10,580

VEHICLES TRAVEL LIVERNOIS DAILY

(in each direction)



Freeway
Primary Streets
Secondary Streets
Tertiary Streets
Street Light
No Left Turn
Average Daily Traffic*

* One direction. Source: SEMCOG, 2012

FIG 05 *Circulation*

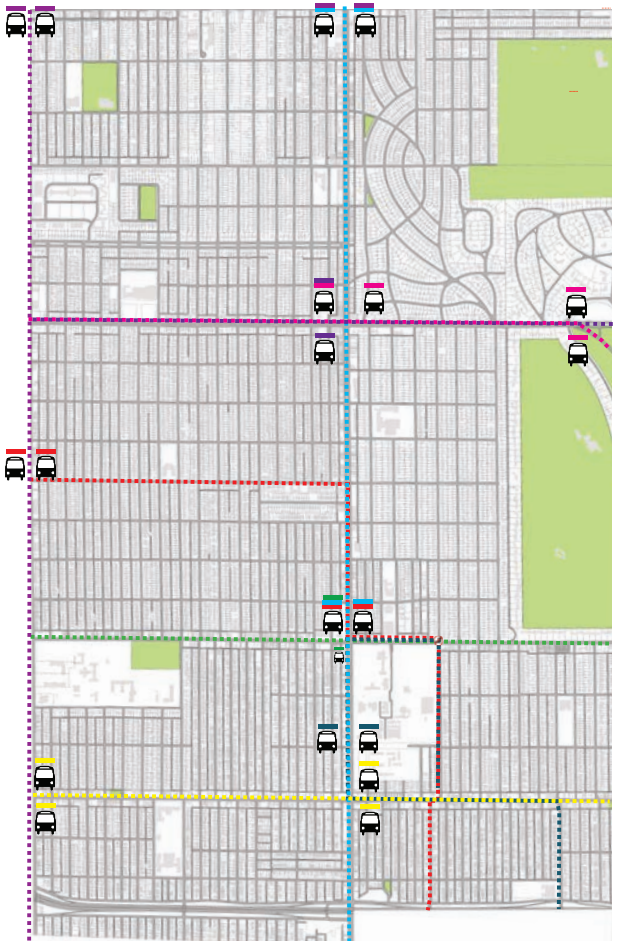
> BUS ROUTES

All of the primary and secondary streets in the area are serviced by bus routes, but travel times to destinations outside the neighborhood are long. Livernois and Wyoming have north/south lines and Eight Mile, Seven Mile, McNichols and Puritan all have east/west through routes. There are nine routes that traverse this area in total.

50+

MINUTES TO DOWNTOWN BY BUS

(from 7 Mile and Livernois)



BUS ROUTES

Route 16, Dexter
Route 17, Eight Mile
Route 23, Hamilton
Route 29, Linwood
Route 30, Livernois
Route 32, McNicholis
Route 39, Puritan
Route 45, Seven Mile
Route 54, Wyoming

FIG 06 *Bus Routes*

EXISTING STREETSCAPE CHARACTER

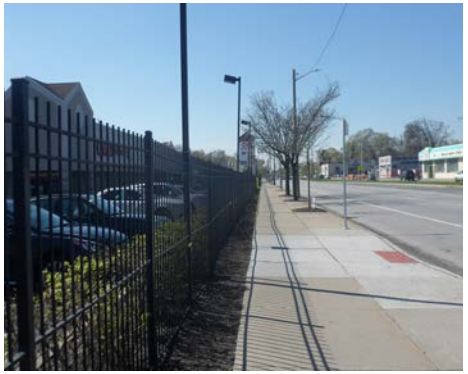
> STREETSCAPE CONDITIONS

The character of Livernois and McNichols varies along the length of each in the focus area. In the Avenue of Fashion area, street trees, decorative paving and occasional outdoor seating contribute to a sense of place and pedestrian-friendly streetscape. Nevertheless, unmaintained trees, paving and plantings are a challenge. Much of Livernois is auto-centric, with few trees. A fence fronts Livernois along the edge of UDM. There are no plantings or pedestrian amenities, a high level of vacancy, and very little activity along McNichols except at Marygrove College, which has a green edge with a recessed fence. Along both Livernois and McNichols, alleys are poorly lit, largely unmaintained, and an opportunity for parking and activation. In every instance, this plan aims to build upon the distinct strengths of each area, particularly where business, property owners and other organizations have taken strides to contribute to improving the streetscape character.

GENERAL ZONE CONDITIONS

C *Fairly healthy and mature canopy of honey locusts on the Avenue of Fashion.*

C *Mike's Market parking lot adjacent to special paving and street trees.*



G *Strip mall with fencing and parking adjacent to sidewalk, on Livernois south of Clarita.*

E *Sidewalk edge with adjacent parking lot, fencing and few trees along Detroit Mercy campus.*

ZONE DETAILS

C *Cafe seating and long planter beds on Avenue of Fashion leave little room for pedestrians.*

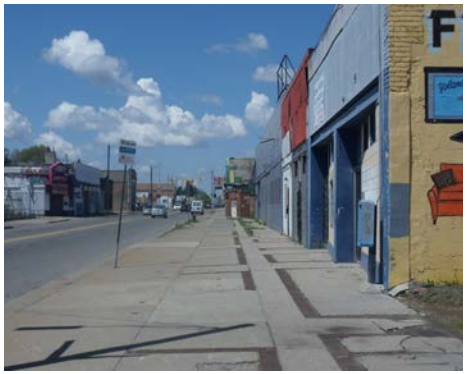
C *Failed paving and bare planting beds on Livernois south of 7 Mile.*

G *Trees in poor condition, planted in cinder block planters and asphalt paved right-of-way.*

E *Vacant lot on Livernois across from Detroit Mercy campus, healthy street trees.*

> STREETSCAPE ACTIVITY ZONES

There are distinct zones of activity along Livernois and McNichols that warrant consideration. Zones include areas intended for high pedestrian traffic, more auto-centric businesses, and university edges. Commercial zones adjacent to the universities are prime for mixed-use opportunities. Key intersections along Livernois that warrant design consideration are at McNichols and Seven Mile, as well as the gateways at Lodge Freeway and 8 Mile.



D *No street trees or pedestrian amenities on McNichols corridor with denser commercial buildings.*

E *Park-like edge along Marygrove College on McNichols Road.*

D *Alleys behind commercial buildings on McNichols could be better utilized for parking if they were cleared, had lighting and other improvements.*

E *Overgrown, vacant blighted properties on north side of McNichols across from Marygrove campus.*

STREETSCAPE ZONES

- A Major Key Intersections
- B Minor Key Intersections
- C Avenue of Fashion
- D McNichols Neighborhood Retail
- E University/Mixed-Use Edge
- F Residential Mixed-Use Edge
- G Low-Density Commercial
- ↔ Neighborhood Connections

FIG 07 *streetscape zones*

> STREET LIGHTING

Lighting is not consistent across the corridors, with varying styles, spacing, and placement of light fixtures. Pedestrian lighting is only found in the Avenue of Fashion zone. The other zones only have 25-40' high road lighting fixtures that are not aimed at the sidewalks, which does not contribute to safe nighttime walking conditions. Lighting can also create an ambiance that encourages evening commercial activity and night life.

Lighting map

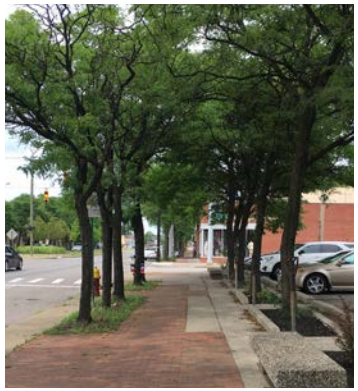
A *Wooden utility pole with street lights, no pedestrian lighting*

B *Black metal street light with pedestrian attachment*

C *New LED street light, no pedestrian lighting*

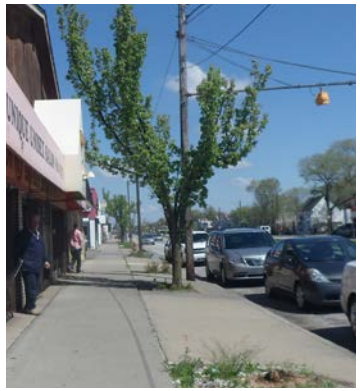
> PLANTINGS

The Avenue of Fashion has the most intact tree canopy along the corridor, with fairly mature honey locusts. Planters in the Avenue of Fashion zone contribute to a sense of place but are in disrepair, require more maintenance, and block pedestrian access from adjacent parking spaces. There are few plantings further south on Livernois on the sidewalk edge. McNichols Road has no plantings except along the Marygrove campus.



Graceful double canopy of trees on Livernois at Outer Drive.

Inconsistent plantings and edging of long in-ground beds on Ave. of Fashion.



Some trees are in poor condition due to small planting pits and severe pruning.

Poorly placed trees and/or planting beds cause damage to the tree.

7 PLAN RECOMMENDATIONS

OVERALL AREA DESIGN STRATEGIES

> OVERALL DESIGN OPPORTUNITIES

With a series of historic and well-defined neighborhoods, two key higher education institutions, and a historic retail corridor, this area holds the potential for economic growth and a high quality of life for the residents in the community. Wide street cross-sections, a collection of retail businesses along the corridor, and an engaged community are some of the key assets of the area.

The strip of high-density retail located at the Avenue of Fashion is an example of successful commercial development along Livernois Avenue that can act as a building block for further retail development. The overall wide street profile of the road offers room to add bike lanes and expanded sidewalks in order to improve the pedestrian experience and bicycle access within the corridors. The long history of the neighborhood as a cultural hub and active retail area is a foundation for the revitalization of the corridor.

Existing alleyways behind Livernois and W. McNichols streets will make it possible to reorient future development to the front of commercial property while keeping the rear of commercial buildings accessible for parking and service. Intersections such as Livernois at Puritan Avenue, W. Seven Mile Road, and Outer Drive West hold the possibility of acting as gateways into the area. This can be accomplished through the use of signage, street treatments to slow traffic, and a focus to increase pedestrian movement, which will communicate the strengthened identity of the newly revitalized area.

Existing businesses along the Avenue of Fashion on Livernois Avenue

Park-like edge along Marygrove College on W McNichols Road

OPPORTUNITIES

1. Area with thriving high-density retail use
2. Intersection with a concentration of activity
3. Opportunity for parking on streets and streetscape elements in surrounding area
4. Potential to re-design Livernois Ave street section to include bike lanes and more pedestrian spaces
5. Potential to redevelop existing strip mall
6. Curtis Street could serve as a major connector between Bagley and the University District
7. Area on McNichols Road adjacent to Marygrove College can be redeveloped for residential use
8. Park-like edge on North side of Marygrove College provides visual interest
9. Greenway will connect Marygrove College and University of Detroit Mercy through Fitzgerald neighborhood
10. Opportunity for new student housing for the University of Detroit Mercy
11. University-owned property on west side of Livernois Ave may allow for gateway into Fitzgerald
12. Intersection can serve as front door gateway to both universities
13. Alley ways behind commercial development on McNichols Road can provide parking and stormwater management
14. Potential University of Detroit Mercy street edge redevelopment site
15. Possible connections between the University of Detroit Mercy and Marygrove College with University of Detroit Jesuit High School

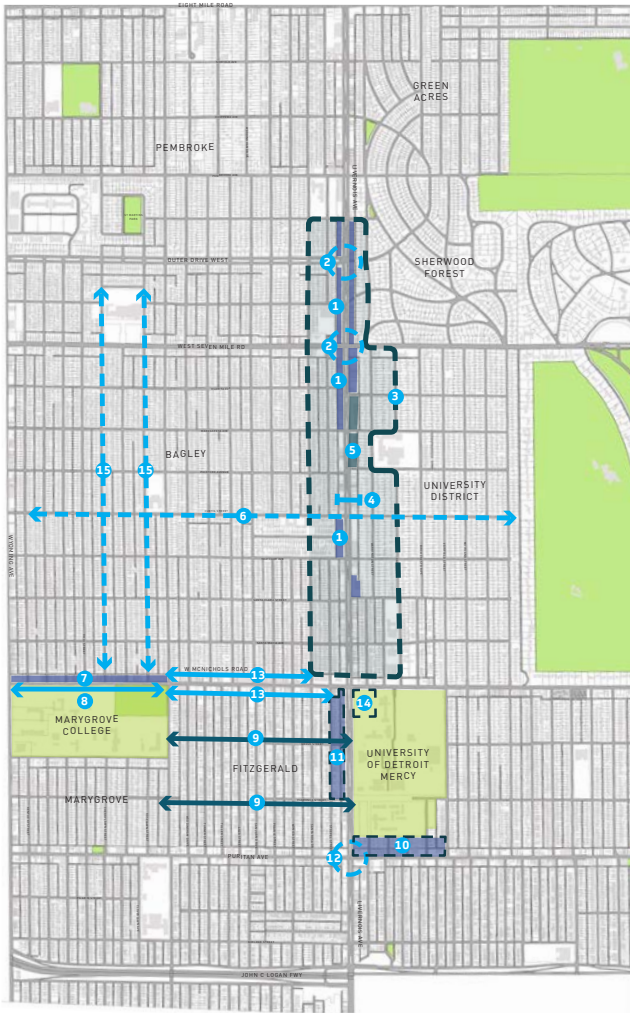
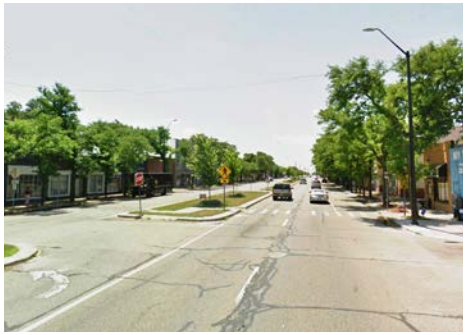


FIG 08 *overall design opportunities*

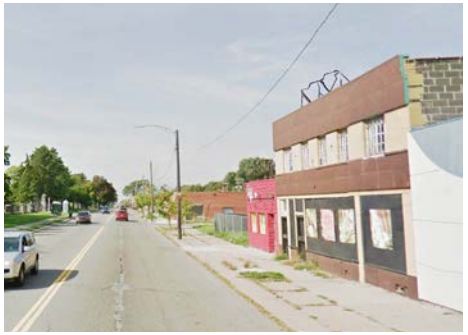
> OVERALL DESIGN CONSTRAINTS

Some of the opportunities in the area, such as wide streets, are in their current state a constraint for growth and development within the neighborhood. Although these design constraints may create various challenges, there is alway potential for constraints to be turned into design opportunities once they are identified and a design solution can be formed.

Although currently, much of Livernois Avenue is lined by expanses of parking lots and vacant land, this condition affords much available real estate and land ready to be developed into shops, restaurants, and other businesses. Vacant commercial spaces occurring along W McNichols Road are also opportune platforms for revitalization. On W McNichols, speed limit indications and traffic lane striping are missing which result in increased speeding and dangerous circumstances for drivers and pedestrians. These conditions can be addressed through standard streetscape improvements which will provide safety and improve the pedestrian experience along the road. Campus fencing existing along the edges of both the University of Detroit Mercy and Marygrove College tends to create a barrier between the university and the surrounding community. Local retail shops would benefit from additional commerce received from university students, while the community would benefit from recreational opportunities afforded by the campuses. These design constraints and a few others are diagrammed in the figure to the right.



Wide streets make crossing Livernois Avenue difficult



Vacant retail buildings and deteriorating sidewalks along W McNichols Road

CONSTRAINTS

1. Large expanse of vacant lots and parking lots along Livernois Ave
2. Short lots along Livernois Ave limit development potential
3. Many vacant and isolated businesses along McNichols Road
4. Speed limit and number of lanes on McNichols Road are currently undefined
5. Fences around Marygrove College and University of Detroit Mercy create barriers between the universities and surrounding neighborhoods
6. Signage and retail along this portion of Livernois Ave lack streetfront character

FIG 09 *overall design constraints*

> ANALYSIS: UNIVERSITY AND NEIGHBORHOOD CONNECTIONS

The series of neighborhoods and two universities are tied together by a number of major and minor streets. The character, movement, and function of each of these streets is defined by its physical attributes as well as the number of people who use it as a convenient neighborhood connection. Through the assessment of the current use of the roadways in the area, it has been determined which are major driving and bike connections, which are minor connections, and which provide alternate services such as a recreational route through the neighborhoods.

Within this area, Livernois Avenue serves as the major North-South driving and bike connection, while W McNichols Road serves as the major East-West connection. Less prominent major connections include Greenlawn Avenue south of McNichols and Cherrylawn Avenue, W. Seven Mile Road, and Outer Drive West to the north of McNichols. Many other roads including Curtis Street, San Juan Drive, and Canterbury Road cut through neighborhoods and are primarily used by locals of the community. A greenway route offering further bike and pedestrian connection is currently in the process of being implemented in the Fitzgerald neighborhood to connect the University of Detroit Mercy and Marygrove College.

Although both driving and bicycle movement is present on these connections, bicycle use is currently secondary to vehicular use. These major connections would benefit from improved bike infrastructure.

Vehicles race along W McNichols Road, a biker forced to ride on the sidewalk

Livernois Avenue is a main thoroughfare which connects the neighborhoods with greater Detroit

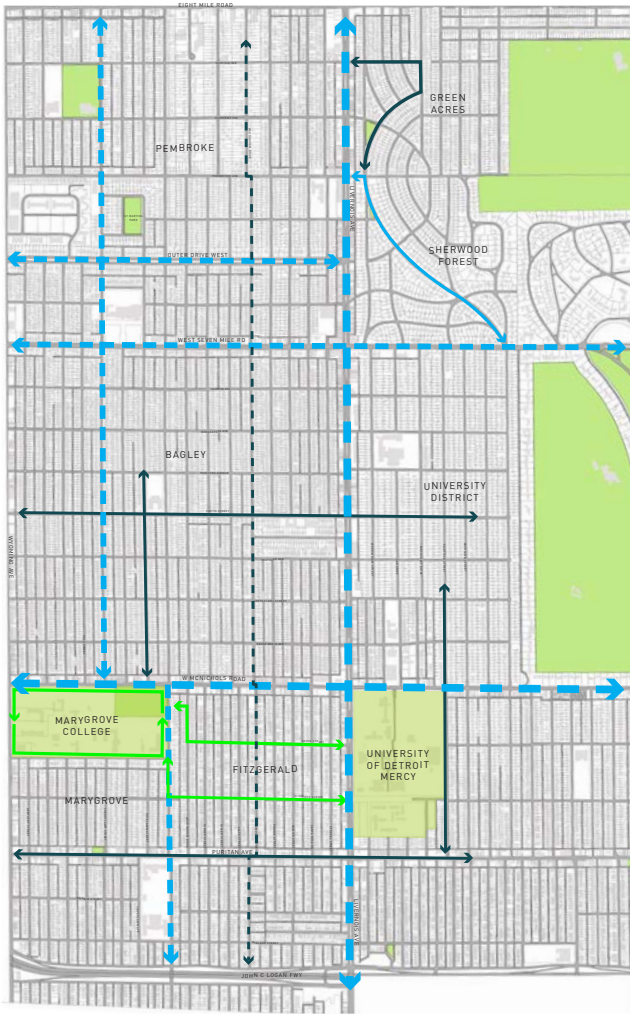


FIG 10 *university and neighborhood connections*

> ANALYSIS: PUBLIC REALM ZONES

Along the major neighborhood connections of Livernois Avenue and W McNichols Road, there are a variety of public realm zones which are associated with the current land use. The zones outlined along these two roads are also tied to the streetscape and its role in the community.

Five public realm zones have been determined, along with major and minor key intersections. Most of Livernois can be considered Low-Density Commercial due to how spread out the businesses are in this area. Near the major intersection of W. Seven Mile Road, Livernois offers a compact series of businesses which creates a zone already known as the Avenue of Fashion. From the major intersection of W. McNichols Road south, a University/ Mixed-Use Edge occurs at the University of Detroit Mercy. Along McNichols, the University/Mixed-Use Edge occurs along Marygrove College and at the University of Detroit Mercy. From Livernois Avenue to Marygrove College, this area is categorized as McNichols Neighborhood Retail due to the high density of commercial buildings. From the University of Detroit Mercy to the East, the area consists of a Residential Mixed-Use Edge.

Each of these public realm zones will help to define the necessary improvements to be proposed by the design proposals.

W McNichols Road offers new businesses a wealth of potential commercial space

The Avenue of Fashion is exemplified by a surplus of neighborhood shops, healthy street trees, and the walkability of the streetscape

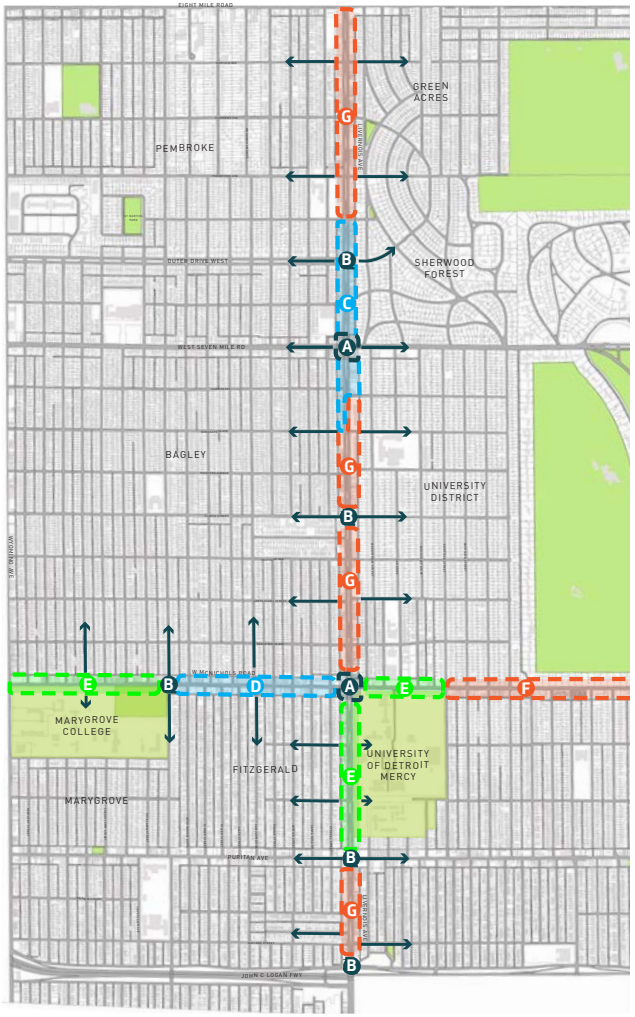
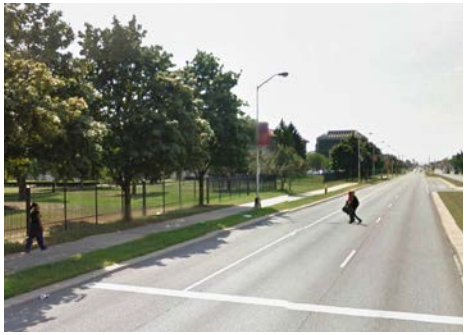


FIG 11 *public realm zones*

> LIVERNOIS AVENUE PROPOSED IMPROVEMENTS

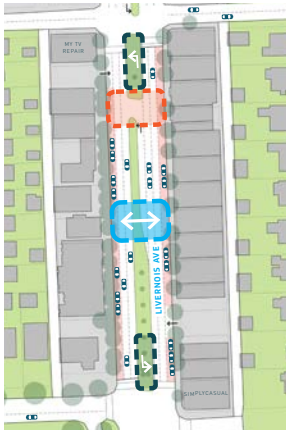
Major intersection improvements are targeted to occur at the intersections of Livernois and W McNichols Road, W Seven Mile Road, and Eight Mile Road. These improvements will include updates to the layout of traffic signals, re-striped crosswalks, turning lanes, curb bumpouts, bus stop improvements, bike lane crossings and turning boxes, as well as, gateway signage and neighborhood branding.

The removal of Michigan left turns will occur along the whole stretch of Livernois within the project site, from Lodge Freeway to Eight Mile Road. Where a Michigan left turn currently exists, the median will be filled in, and instead, conventional left turns will be allowed. Conventional left turn lanes will be added at every street intersection. Mid-block crossings will be added for a series of blocks in two places: along the Avenue of Fashion and along the University of Detroit Mercy. This design intervention is designed to increase the ability for pedestrians to move from one side of the street to the other. These additional crossings are proposed to occur in these two areas along Livernois where there is the most initial need for greater pedestrian movement.



Many are forced to cross between traffic due to a lack of designated crossings

Michigan left turns make navigating Livernois more challenging for drivers



KEY

- Intersection Improvements
- Remove Michigan Left Turns
- Add Mid-Block Crossings
- Add Left Turn Lanes

FIG 12 *livernois avenue proposed improvements*

> STUDY AREAS WITHIN THE COMMUNITY

As a result of the overall analysis of the area, including overall design opportunities and constraints, university and neighborhood connections and public realm zones, three study areas have been selected. These study areas have been studied in further detail, through the creation of plan and section drawings, with the purpose of developing informed design proposals for the improvement of the public realm spaces of the Livernois and McNichols corridors.

Within each study area there are common existing conditions including adjacent land use and existing streetscape features and function. Within each chosen area there are also common potential roles and opportunities for the improvement of the streetscape.

Study Area A spans along W. McNichols Road from Livernois Avenue to Greenlawn Avenue and encompasses the McNichols Neighborhood Retail area. Study Area B continues along W. McNichols Road from Greenlawn Avenue to Wyoming Avenue creating the McNichols along Marygrove College area. Study Area C outlines the whole Livernois Avenue section of the project bounds.

Both the McNichols and Livernois corridors have areas with unique existing conditions and potential design opportunities.

FIG 13 *study areas within the community*

STUDY AREA A

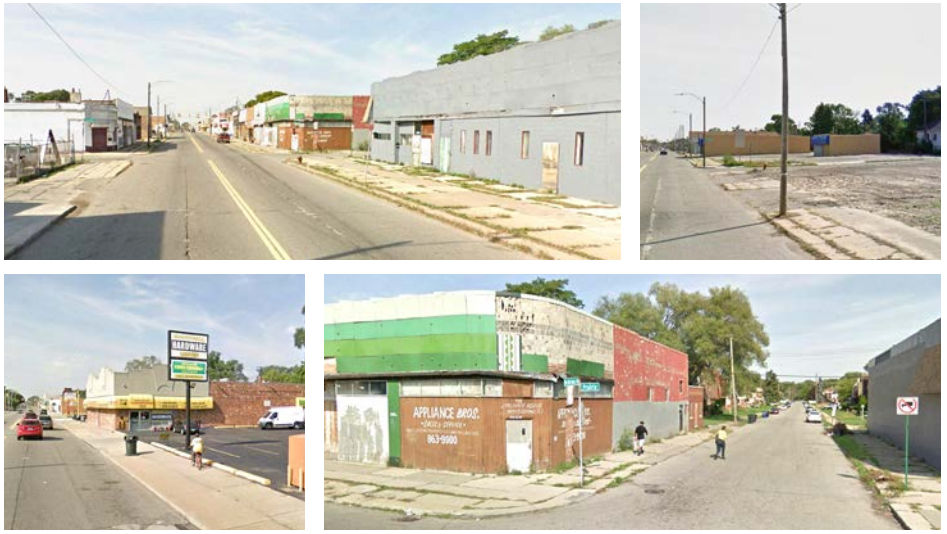
> MCNICHOLS NEIGHBORHOOD RETAIL

SNAP SHOT: STUDY AREA A

> MCNICHOLS NEIGHBORHOOD RETAIL

Investment for the McNichols Neighborhood Retail area is targeted to occur along W McNichols Road spanning for half a mile from the University of Detroit Mercy campus at Livernois Avenue to Marygrove College at Greenlawn Avenue.

Although the University of Detroit Mercy and Marygrove College campuses are relatively close to one another, there is not currently a prominent or highly desirable public space connection between the two. Once a business lined street, W McNichols Road affords a wealth of potential retail and commercial use spaces. Today, many of these retail spaces are vacant and the condition of the streetscape is in neglect. This section of McNichols holds the potential to become a popular retail hub similar to the Avenue of Fashion while facilitating connectivity between the two neighboring universities to the East and West.



Existing images along the McNichols Neighborhood Retail area

Context map

Existing street view of W McNichols Road at Lilac Street looking West

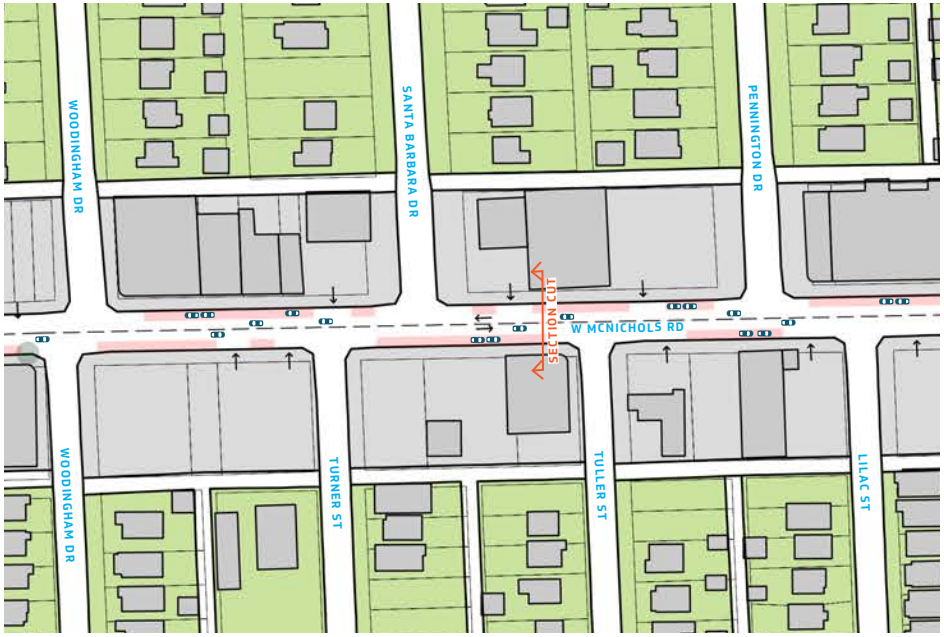
EXISTING CONDITIONS

> EXISTING CORRIDOR LAYOUT

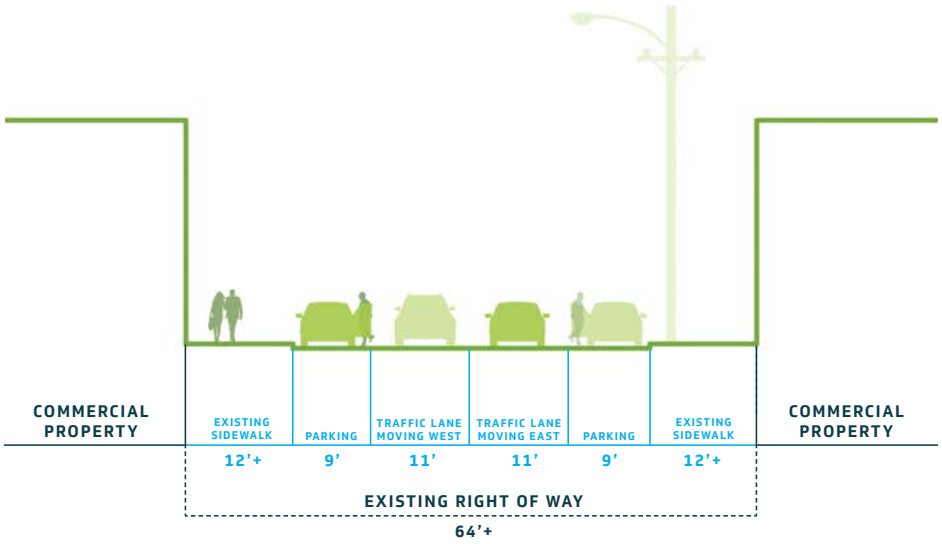
This section of W McNichols Road is currently lacking the aesthetic character and resources that make up a healthy streetscape. Although there are a number of businesses spread along the road, there are many sections of boarded up buildings where local shops and stores have gone out of business. Glimpses of revitalization and private investment can be seen through the establishment of a few successful new businesses. People from the community can be seen walking or riding a bike along the sidewalk, but the street is not currently a lively shopping or dining destination.

Overall, a strong foundation for greater use of the public realm space and bicycle activity is absent because of the poor condition of the sidewalks and lack of bike lanes. There are cracks in the pavement, make-shift curb-cuts, and an overall lack of maintenance of the sidewalks. Without street trees, there is no buffer between the sidewalk and the cars that speed along the road. These conditions create an unpleasant experience for those on foot and hinder the road from having inviting outdoor spaces along the road.

A lack of spatial organization of the road increases risks for those who use it. Drivers make the two lane road into a four lane road because the traffic lanes are not clearly marked. This is dangerous for both drivers and pedestrians due to the creation of blind spots and tight spaces. On-street parking is not clearly indicated which can make entering and exiting a parked vehicle more dangerous. The San Juan Drive intersection is the only instance of marked crosswalks currently along the corridor. Unless people are able to easily navigate the street on foot, pedestrians will be less attracted to strolling along the street's retail and public realm spaces.



Existing plan



Existing section

DESIGN ALTERNATIVES

> EFFICIENT BIKE ROUTE CONNECTION

As part of the design process, various improvements were considered for the enhancement of the public realm space. One of the most important factors of the design is to ensure the viability of the McNichols Neighborhood Retail area to become an attractive corridor between the University of Detroit Mercy, Marygrove College, and the surrounding neighborhoods. Both consideration for improved sidewalk spaces to provide more pleasant routes by foot and for the efficiency and safety of traffic movement within the roadway are key for a healthier streetscape. The addition of a bicycle route within the corridor with bike lanes moving east and west will make the half-mile stretch between the two universities an easy and enjoyable ride. People coming from neighborhoods surrounding the McNichols Neighborhood Retail area will be able to hop on their bikes and ride safely to restaurants, shops, or a community park with ease.

Proposed plan

> TWO-WAY CYCLE TRACK NOT RECOMMENDED

During the development of the design, the new streetscape was envisioned to have a two-way cycle track on the South side of the road which would connect to a bicycle and pedestrian shared path proposed to run along the same side of the road at the Marygrove College edge. It was determined that the two-way cycle track would require additional bicycle crossing infrastructure including street crossing signalization which would not be plausible due to cost implications.

As a result, a typical separated bike lane layout will be proposed within this option, with specific design strategies employed for the transition between the McNichols Neighborhood Retail separated bike lanes and the McNichols at Marygrove College two-way shared path.

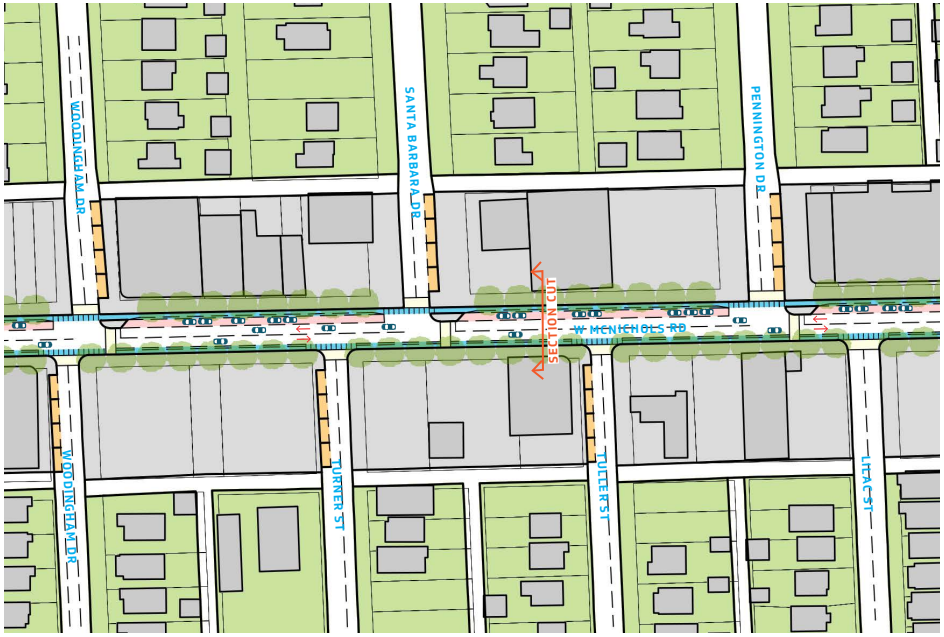
Proposed section

FINAL DESIGN PROPOSAL

> PROPOSED CORRIDOR LAYOUT

The proposed design will create an updated public space corridor connecting the University of Detroit Mercy, Marygrove College, and the surrounding neighborhoods. The key design changes are the reduction of the width of the traffic lanes, the removal of one lane of on-street parking from the South side of the street, and the addition of various amenities including bike lanes and street trees.

Two traffic lanes will be clearly striped with widths of 10 feet in order to reduce speeding. The street will include one 8 foot wide parking lane on the North side of the street. Bike lanes will run along both sides of the road moving cyclists safely alongside vehicular traffic to the east and west. The sidewalks and street curbs will be replaced creating an even walking surface for pedestrian traffic. Along every block, a row of street trees will create a distinction between the available sidewalk public realm space and movement of traffic along the street. The lush trees will increase the aesthetic character and provide shade to elevate the pedestrian experience along McNichols Road. Crosswalks will be implemented at the point where each side street to the North meets McNichols. To provide greater pedestrian safety, curb bumpouts are used at crosswalks on the North side of the road at the end of the parking lane of each block. Curb bumpouts at the side street corners may also be added to create protected parking lanes along the side streets. A more in depth parking study of the McNichols Neighborhood Retail area is included on the following page.



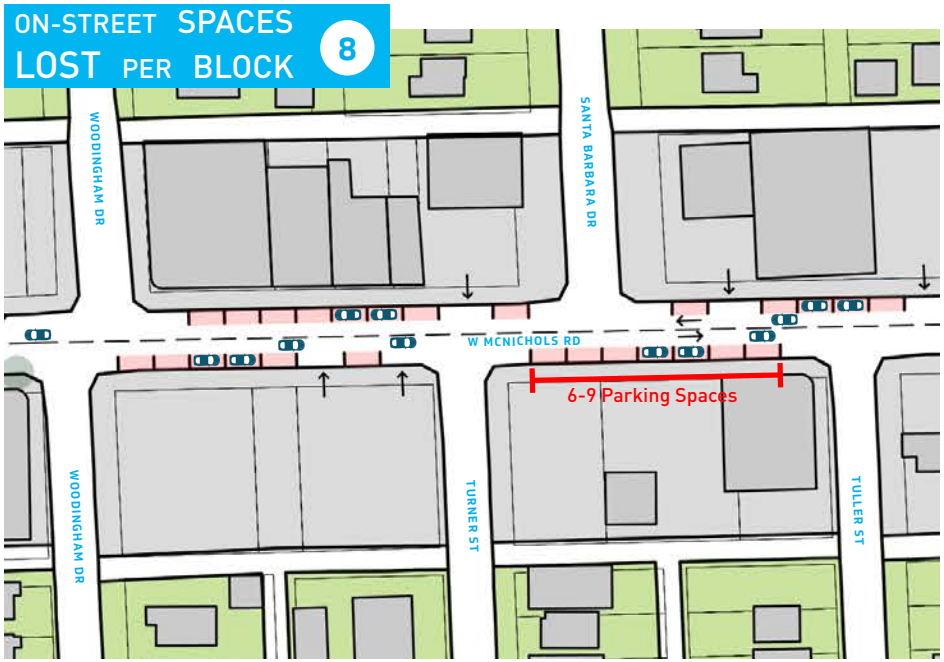
Proposed plan

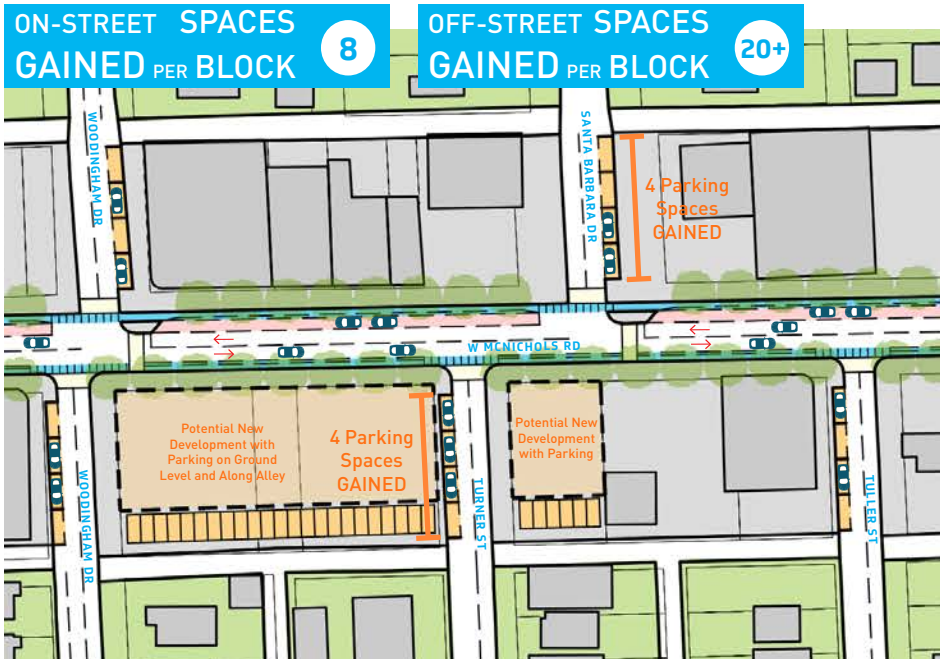
Proposed section

> PROVIDING PARKING SOLUTIONS

In order to account for an increased need for parking as the McNichols Neighborhood Retail corridor is developed, a parking study was generated to envision potential parking solutions while incorporating the proposed design for the streetscape. With the addition of bike lanes along this section of McNichols, the South on-street parking lane will be removed. Blocks along the South side of the road currently offer between 6 to 9 parking spaces. With the removal of the South parking lane, there will be a reduction of parking by an average of 8 on-street spaces per block. Most side streets to the North and South of McNichols afford space for 4 on-street parking spaces to be added between W McNichols Road and the residential neighborhood. As shown in the diagram on the bottom right, the curbs at the street corners may be extended in order to create a protected parking lane along each side street. Counting the 4 spaces on both the North and South side streets, 8 on-street parking spaces may be added per block to replace the 8 on-street spaces lost per block along W McNichols Road.

Continual growth and investment triggered by the improved McNichols Neighborhood Retail streetscape may produce additional parking needs. As empty lots along the corridor are developed, off-street parking should be added as ground level parking within new developments. In order to create a dense retail corridor, surface parking should be minimized while proposed buildings should be positioned along the front property line to maximize the connection between pedestrians and local businesses. The existing alley running behind the commercial properties of McNichols will allow service access and support the potential for parking spaces to be added in the rear of existing or future buildings.

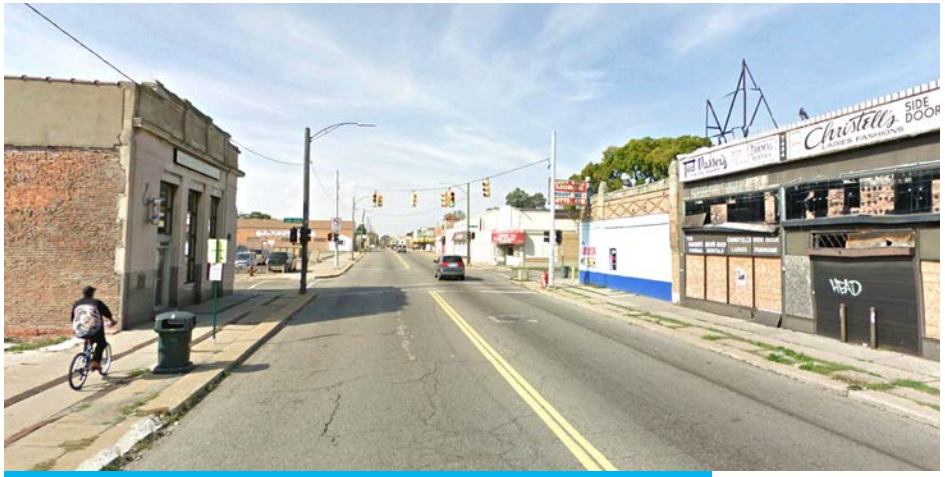




> TRANSFORMING THE PUBLIC REALM

Improving the pedestrian experience by providing clear sidewalk space for use by outdoor cafés or retail shops, and rebuilding the character of the street through new trees, lights, and paving will encourage additional retail development along the corridor. Neighboring residents, university students, and visitors alike will feel welcome to stop and experience this section of McNichols. Either for a stroll along the retail strip or a stop in for a snack at a café or restaurant the area will become an enticing new rendezvous point.

Parking spaces may be upgraded into parklet sitting spaces. Café tables and chairs may be added to the sidewalk space between newly planted shade trees. Both bikers and pedestrians will be offered a safe and more pleasant experience along the newly designed McNichols Neighborhood Retail corridor.



The existing street view shows the current conditions of the street in neglect.

The proposed streetscape is proposed to offer an enhanced public realm complete with bike lanes, street trees, and spaces for sidewalk cafe tables.

The series of underutilized spaces currently existing along W McNichols Road is proposed to be transformed into a continuous stretch of inviting public space.

STUDY AREA B

> MCNICHOLS AT MARYGROVE COLLEGE

SNAP SHOT: STUDY AREA B

> MCNICHOLS AT MARYGROVE COLLEGE

Investment for the McNichols at Marygrove College area is proposed to span just under half a mile from the edge of the Marygrove College campus at Greenlawn Avenue west to the campus edge at Wyoming Avenue. The design will create a consistent typical condition along Marygrove's campus to produce a delineation of function and aesthetic character for this neighborhood corridor.

Where currently there exists a divide between each side of the road and its uses, the improvements will seek to bridge the two sides, creating a welcoming park-like aesthetic as the foundation for a stabilized retail strip on one side and a recreational shared path corridor on the other. This redefinition of the streetscape, will boost the economic viability of the area while also strengthening the health of the community around the corridor.

Existing images along McNichols at Marygrove College area

Context map

Existing street view of W. McNichols Road at Marygrove College looking West

EXISTING CONDITIONS

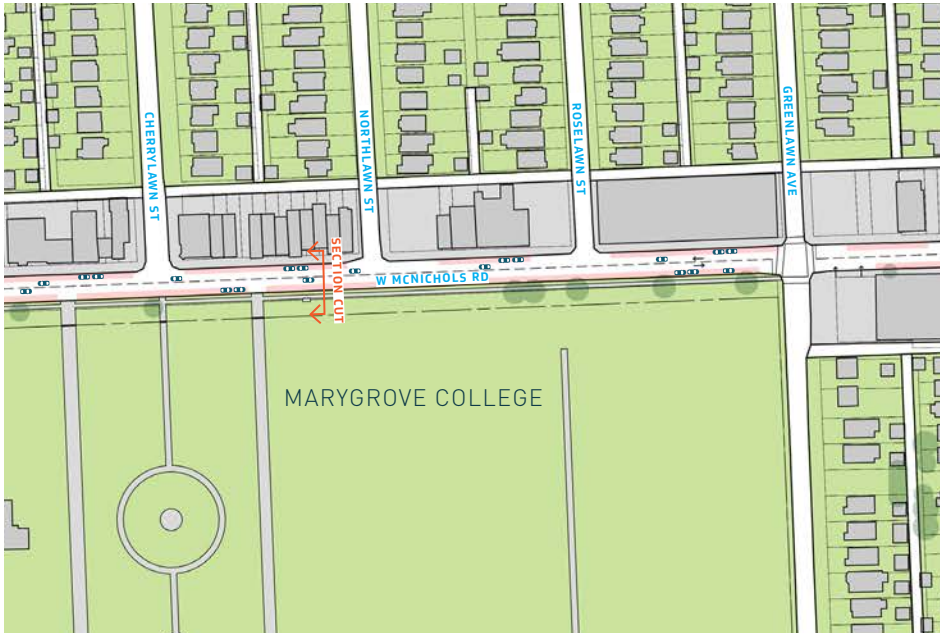
> EXISTING CORRIDOR LAYOUT

This stretch of W. McNichols Road offers the beautiful, green landscape of Marygrove College on one side, while on the other side unused shop fronts are falling into disrepair. There is a lack of connection between the two sides of the roadway in addition to a surplus of unused space.

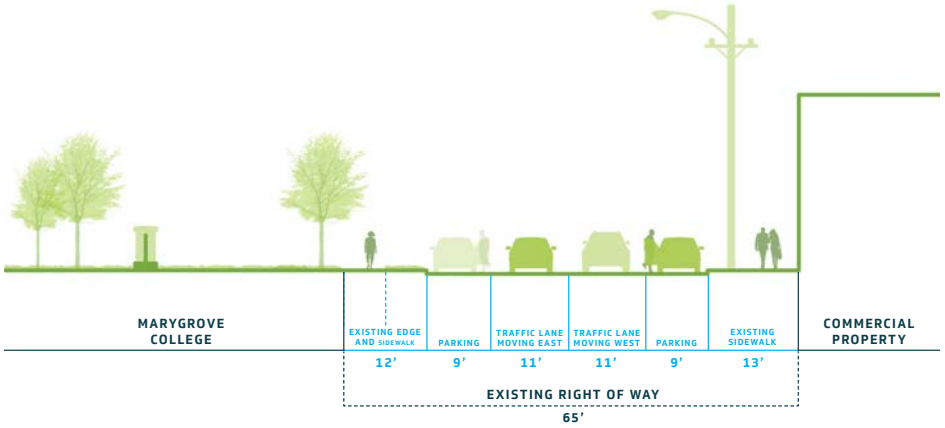
On the Marygrove side of McNichols, the sidewalks and lawn are well maintained. Mature trees run consistently along the campus fence which is offset from the road, although along the road the line of mature trees is not as consistent. This area between the existing sidewalk and the Marygrove College fence has a welcoming park-like aesthetic, but most of the space is not currently taken advantage of.

To the North side of McNichols, the condition of both the streetscape and many of the retail fronts has been neglected. Many of the commercial buildings are boarded up and vacant. The sidewalks are in poor condition, allowing successional plant species to overtake the pedestrian space. The few street trees which are existing are unhealthy and stunted due to a lack of porous soil for their roots to grow into.

Within the roadway, there is a lack of roadway spatial organization which makes the road more dangerous for vehicular traffic and pedestrians alike. Since the two traffic lanes are not clearly marked, drivers often make the road into a four lane road, creating blind spots for pedestrians and unsafe driving and parking conditions along the road. There are no instances of crosswalks along the whole stretch which further plays into the disconnect between the North and South sides of the road.



Existing plan



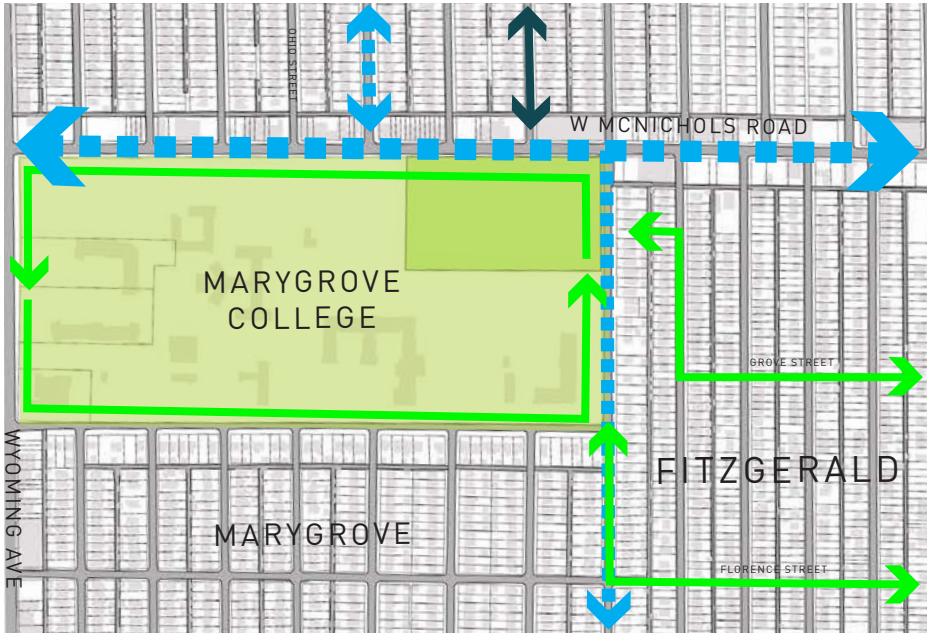
Existing section

DESIGN ALTERNATIVES

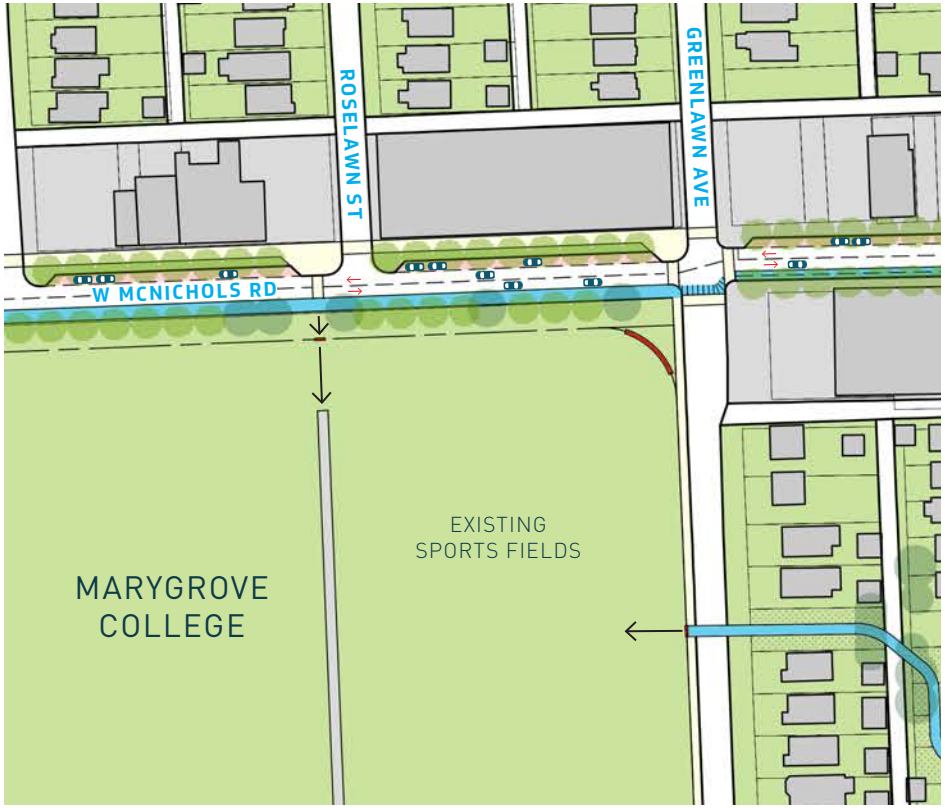
> GREENWAY LOOP CONNECTIONS AND SIGNAGE

The initial planning process, which has lead to the selection of areas of investment and to the overall proposed circulation of the Livernois Avenue, W. McNichols Road, and surrounding neighborhood connections, began with specific goals to provide to the community. These goals include connecting major community anchors, providing alternate modes of transportation, and increasing access to recreational and fitness opportunities.

As shown in the circulation diagram below, the enhancement of the Marygrove College campus by creating a greenway loop along the campus perimeter would supply an extension to the Fitzgerald neighborhood greenway path while also connecting with the McNichols at Marygrove proposed shared path. The greenway loop would provide opportunities for recreation and fitness to the university students and faculty, along with



Proposed circulation diagram



Proposed plan

local business owners and residents of the community. The loop would also further promote the usefulness of the connection between Marygrove College and the University of Detroit Mercy.

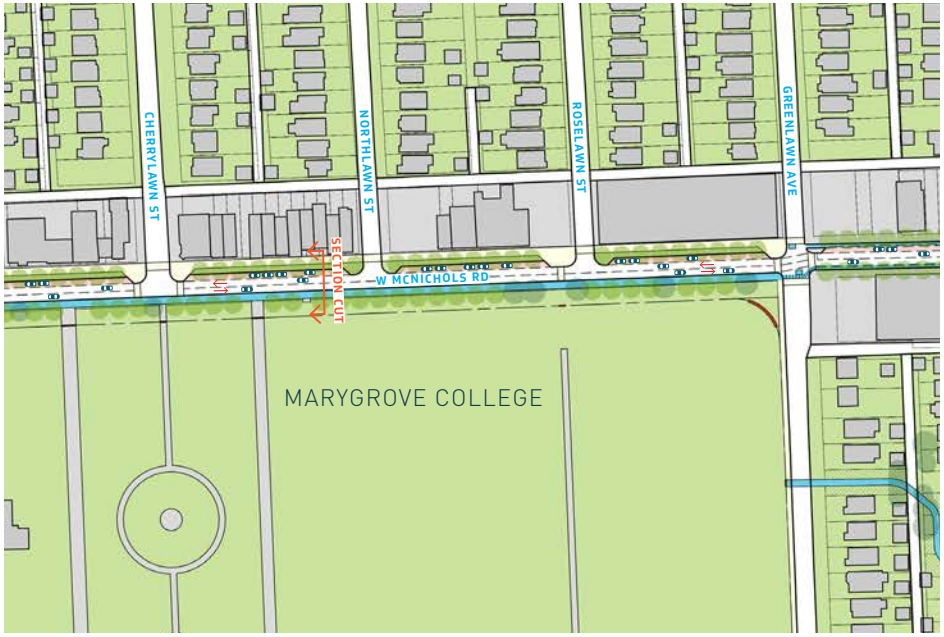
The addition of prominent signage at the Northeast corner of the Marygrove College campus may provide further benefit to the identity of the campus. This addition would compliment the engaging art installation and landscape space at the Northwest corner of the campus by anchoring both sides of the campus to the community.

DESIGN PROPOSAL

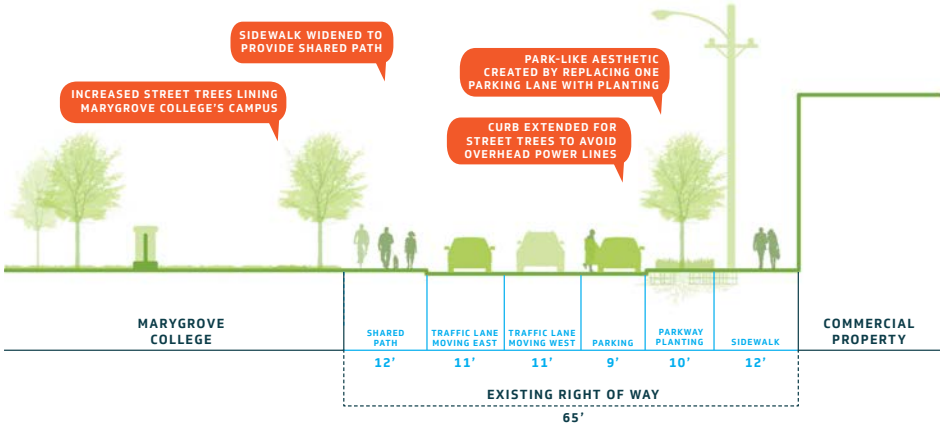
> PROPOSED CORRIDOR LAYOUT

The design aims to create an inviting pedestrian and recreational park-like thoroughfare on W. McNichols Road at Marygrove College. A more desirable streetscape character will be achieved through unifying the North and South sides of the road to create connection between users and function.

Along the South side, a 12' wide shared path will extend along Marygrove College's northern edge, continuing the bicycle corridor, while also taking advantage of the beautiful landscape offered by the space. Street trees will be planted to fill in both sides of McNichols with lush, leafy, green color and texture. Crosswalks and curb bumpouts will help pedestrians cross back and forth from Marygrove College and the proposed recreational corridor to the retail shops and businesses. The clear designation of two travel lanes, as well as a parking lane on the North side of McNichols will produce a safer streetscape. The curb on the North side will be extended to create a series of generous and lush planting beds. A soil cell system will be used within the planting beds to produce two primary benefits. The structural system will work to protect the tree roots from compaction allowing the trees to grow to a mature, healthy size. The system will also be used as a piece of green infrastructure to capture stormwater runoff from the surrounding sidewalk and roadway then to store, purify, and infiltrate the water into the subsoil. The use of this system will enable the street trees to grow tall and create a healthy canopy over the road. Purposeful changes to the layout of the street right of way will go a long way in improving the function and potential of the space.



Proposed plan



Proposed section

> BIKE PATH TO SHARED PATH TRANSITION

A unique intersection strategy will be needed where W. McNichols Road crosses Greenlawn Avenue in order to connect the two differing bike lane strategies for the McNichols Neighborhood Retail area and the Livernois at Marygrove College area. The McNichols Neighborhood Retail design proposes separated bike lanes on each side of the road, while the McNichols at Marygrove College design will take advantage of the park-like campus grounds by implementing a shared bicycle and pedestrian path along the South side of W. McNichols Road.

The selected strategy to provide for cyclist crossing at this intersection is the implementation of two-stage turn queue boxes on either side of McNichols.

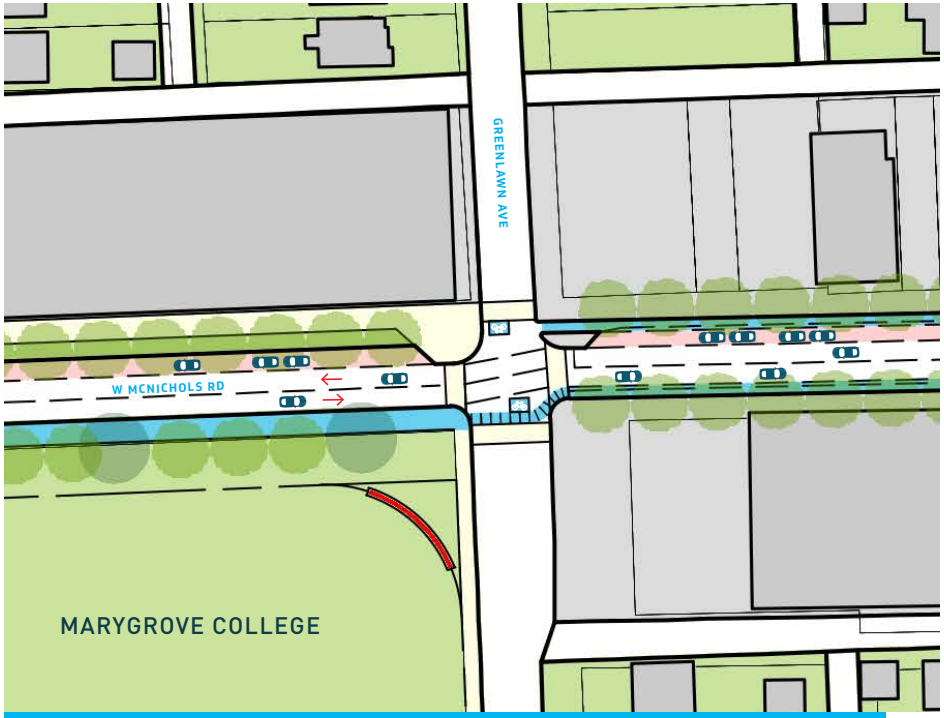


FIG 14 *Two stage turn queue boxes are proposed for the transition between the McNichols Neighborhood Retail separated bike lanes and McNichols at Marygrove College shared path.*

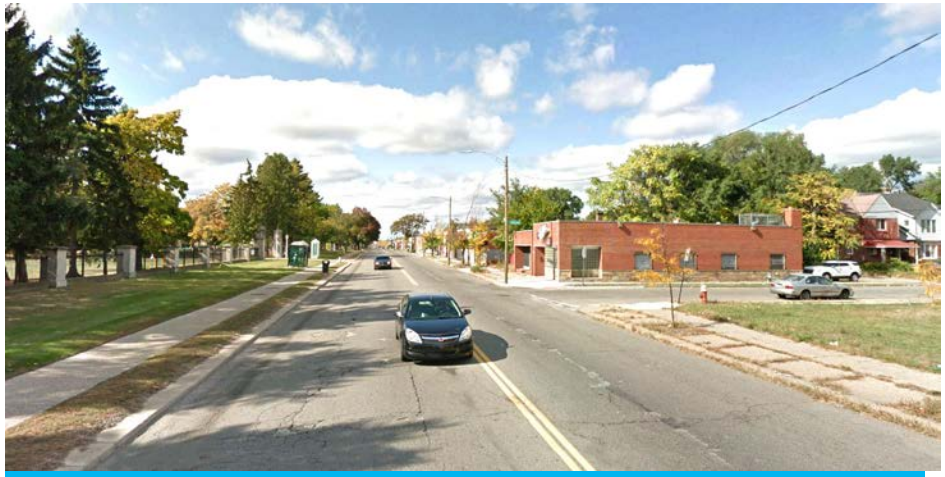
These queue boxes are indicated zones that cyclists are able to turn into to wait for a safe opportunity to cross to the other side of the intersection. Two-stage turn queue boxes may be used at both signalized and unsignalized intersections. More information as well as precedent images and diagrams about the two-stage turning queue box strategy can be found at the National Association of Transportation Officials (NACTO) website.

Two stage turn queue boxes are used to provide cyclists with a protected zone while waiting for an opportunity to make a turn or cross through the intersection.

> TRANSFORMING THE PUBLIC REALM

The character of McNichols at Marygrove is designed to be a holistic, inviting space for many activities and users. Street trees will be planted to fill in both sides of the road with lush, leafy, green color and texture. The trees will create shade for shoppers in the summer and a beautiful display of fall color in autumn. On the Marygrove side, a wide shared path would wind under the tree canopy, providing a path for students and community residents to walk, jog or bike.

Designated crosswalks with extended bumpouts would act to slow traffic and enable pedestrians to transition from one side of the road to the other. In the same way, community residents will be able to easily transition between activity within this corridor. The goal is to facilitate varied activities, from recreation and fitness to stopping by a favorite restaurant or shop, to all be located along the McNichols at Marygrove College stretch.



The existing street view shows the current divide between each side of McNichols at Margrove College.

The streetscape can be transformed into a lively park-like corridor with an active shared path to one side and an attractive platform for a prominent retail strip on the other.

The goal is to facilitate varied activities to all be located along the McNichols at Marygrove College stretch.

STUDY AREA

>LIVERNOIS AVENUE

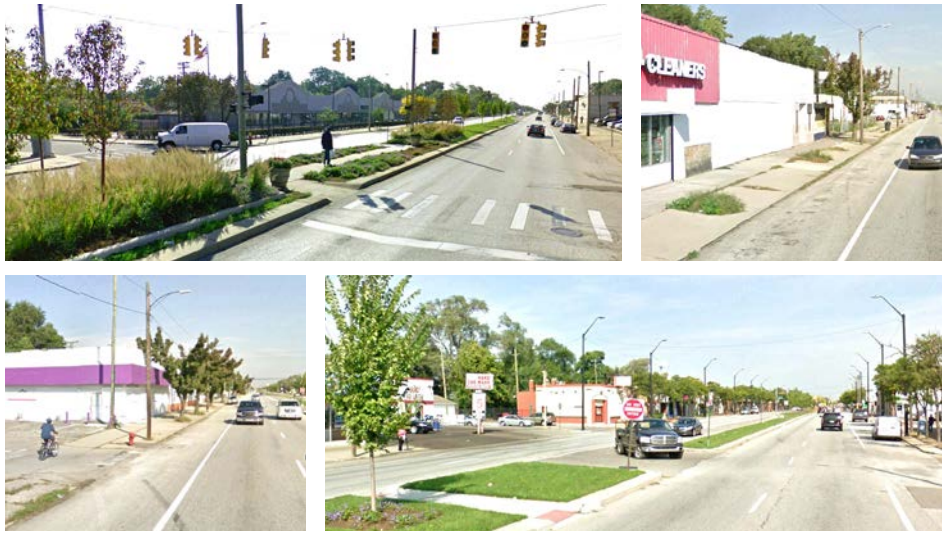
C

SNAP SHOT: STUDY AREA C

> LIVERNOIS AVENUE

The proposed area of investment along Livernois Avenue stretches from Lodge Freeway 2.8 miles north to W. Eight Mile Road. Through analyzing the physical characteristics of Livernois within the study area, three main conditions have been determined to describe the existing use of the road. These three conditions are Low-Density Livernois, Livernois at the University of Detroit Mercy, and Livernois at the Avenue of Fashion.

Livernois Avenue functions primarily as a low-density commercial thoroughfare exemplified by the presence of big-box stores, strip centers, and parking lots along much of the road. This condition is interrupted in two places: where the University of Detroit Mercy adjoins the avenue and at a heavily concentrated area of retail fronts, restaurants, and businesses, known as the Avenue of Fashion. Improvements to the streetscape as a whole will benefit all three conditions along Livernois Avenue.



Existing images along Livernois Avenue

Context map

Existing street view of Livernois Avenue at the end of the Avenue of Fashion looking South

> LOW-DENSITY LIVERNOIS

Low-Density Livernois refers to low-density commercial use areas which exist roughly from Eight Mile Road south to St. Martins Avenue, from Margareta Avenue to W. McNichols Road, and from Puritan Avenue to Lodge Freeway. Along these sections of Livernois, large warehouses, fast-food chains, retail strip centers, and expanses of parking lots create a scale which is intimidating for the human experience and instead cater directly to vehicular use. Through the implementation of safe and efficient bike lanes on Livernois Avenue, businesses along these commercial areas will have the opportunity to become better connected, and more easily accessed by the community. Much of the real estate which is currently underutilized or used primarily for vehicular use and parking will become opportune land for redevelopment. The economic and social outlook of Livernois Avenue as a whole holds potential for growth as an avenue connected by improved bicycle and pedestrian infrastructure.

Existing images along the McNichols at Marygrove College area

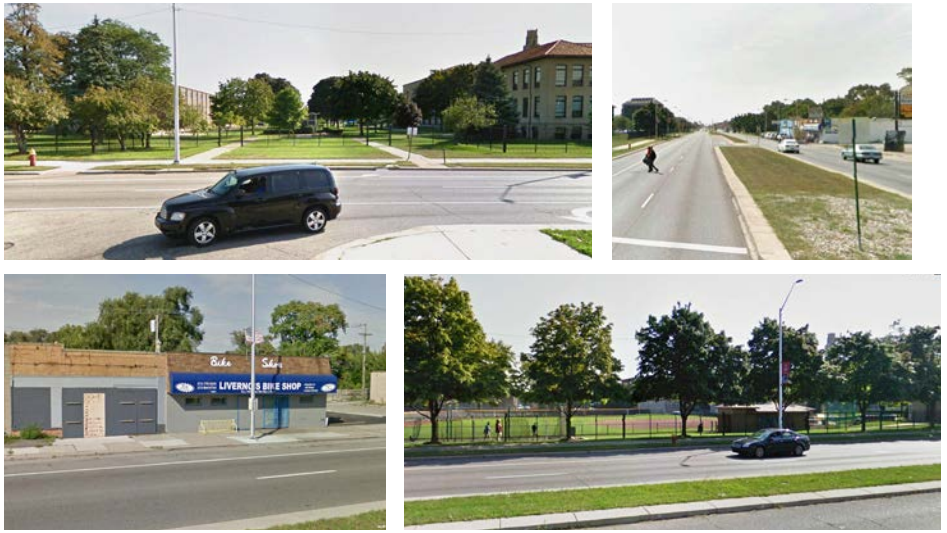
Context map

Existing street view of Livernois Avenue at the University of Detroit Mercy looking North

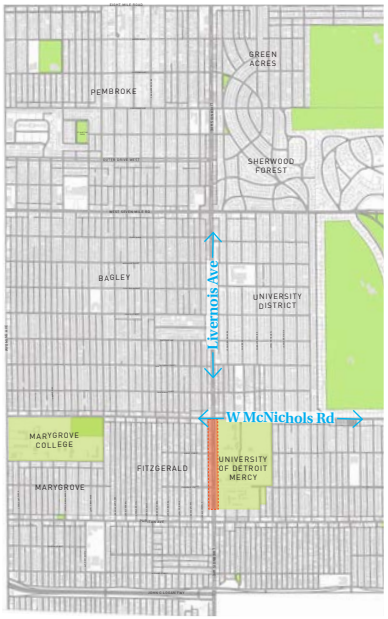
> LIVERNOIS AT THE UNIVERSITY OF DETROIT MERCY

Livernois at the University of Detroit Mercy exists from W. McNichols Road south almost reaching Puritan Avenue. A beautiful green campus lies to the East, while a mix of commercial buildings and vacant land reside to the West.

University campuses are typically areas with the greatest need for pedestrian and bicycle connection to surrounding restaurants, retail, and housing. Although both sides of the road should be part of the daily lives of the surrounding community, they are partitioned off by the busy, hard to navigate condition of Livernois Avenue, and by other obstructions including poor sidewalk conditions and the absence of accessible paths connecting into the heart of the university's campus. Through the reinterpretation of function along Livernois Avenue, an improved streetscape holds the potential to revive all aspects of the road by connecting users to the resources that Livernois at the University of Detroit Mercy has to offer.



Existing images along Livernois Avenue at the University of Detroit Mercy



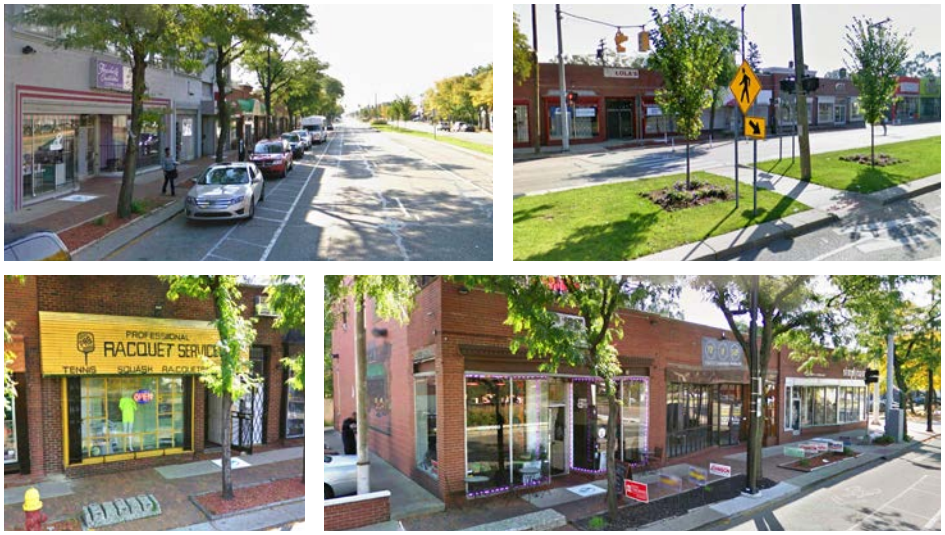
Context map

Existing street view of Livernois Avenue at the University of Detroit Mercy looking North

> LIVERNOIS AT THE AVENUE OF FASHION

Livernois at the Avenue of Fashion runs from St. Martin Avenue south to Margareta Avenue for 5 blocks and includes the intersection of W. Seven Mile Road. Composed of a high density of retail stores, restaurants, and businesses, this area is a clear juxtaposition to most other parts of Livernois Avenue. Here, the character of the streetscape has been developed in greater detail which has played a part in strengthening the physical and social characteristics of the space. A mid-block crossing implemented on one of the blocks enhances movement and connectivity.

Although some attention has been paid to improving the pedestrian experience, both the community and local business owners would benefit greatly by pushing these concepts forward even farther to create a thriving public realm zone along Livernois at the Avenue of Fashion.



Existing images along the McNichols at Marygrove College area

Context map

Existing street view of Livernois Avenue at the Avenue of Fashion looking North

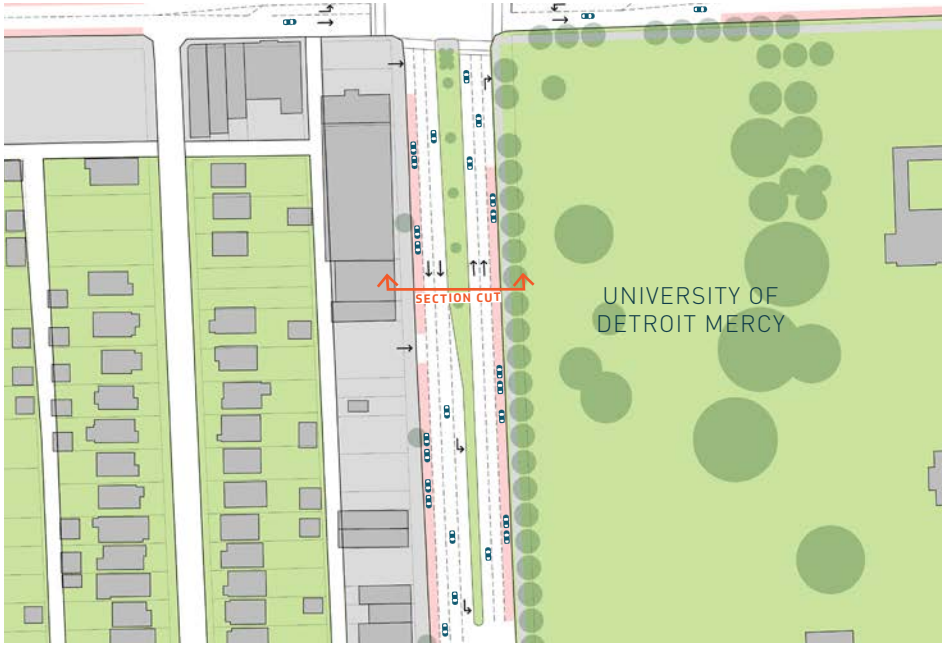
LOW-DENSITY LIVERNOIS AND LIVERNOIS AT THE UNIVERSITY OF DETROIT MERCY

> EXISTING CORRIDOR LAYOUT

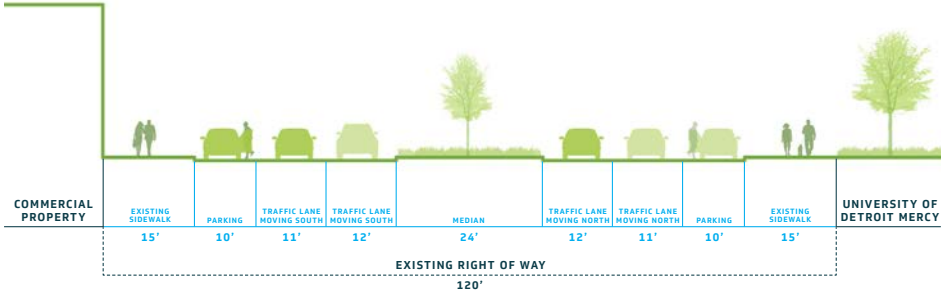
Low-Density Livernois is the most prominent condition that occurs along Livernois Avenue. In these areas, commercial use buildings are spread along the roadway accompanied by large expanses of parking lots. One of the two interruptions to the low-density commercial condition is where the University of Detroit Mercy meets Livernois Avenue. Here, the university campus creates a lush green edge with sports fields and university buildings along the roadway, but the campus is partitioned from the community by a campus fence as well as the hard-to-navigate condition of Livernois Avenue.

Present at both conditions of Livernois, four lanes of traffic plus a parking lane on each side create a six lane wide street profile which makes crossing the street an intimidating and risky task. The existing concrete sidewalks are in poor condition in many areas. Street trees are very sparse along the street and are stunted in growth by small tree pits. Vehicular circulation is dominant, minimizing the presence of pedestrian and bicycle circulation.

There exists a lack of pedestrian connection between both sides of the street. Livernois exhibits long block lengths averaging 600' for most blocks and 800' along the University of Detroit Mercy's campus. Crosswalks exist only at intersections. The long distance between crossings as well as a lack of marked crosswalks discourage movement and reduce commerce along Low-Density Livernois and Livernois at the University of Detroit Mercy.



Existing plan



Existing section

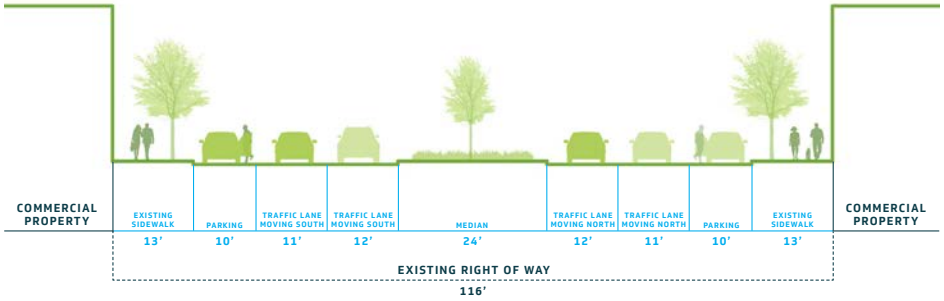
LIVERNOIS AT THE AVENUE OF FASHION

> EXISTING CORRIDOR LAYOUT

The second area that interrupts the Low-Density Livernois condition is Livernois at the Avenue of Fashion. This area is characterized by small-scale retail fronts, restaurants and businesses consistently lining five blocks of the avenue. The storefront windows and entrances abut the sidewalk creating greater opportunities for engagement between the businesses and pedestrians. The sidewalks, although somewhat outdated, are differentiated from the rest of Livernois Avenue through the use of pavers in addition to concrete paving. Large tree planters with breaks only large enough for pathways to parked vehicles divide the 15' wide sidewalks. Consequently, the sidewalks may only be used for pedestrian circulation and are not wide enough for local businesses to create outdoor café seating in the public realm space. Some tree planters are well-maintained by the adjacent business, while some are neglected resulting in undesirable plots of overgrown vegetation. This produces an aesthetic that is inconsistent along the avenue.

Consistent with the rest of Livernois Avenue, the road at the Avenue of Fashion exists as a four lane road with one lane of on-street parking adjacent to the curb on each side. Street crossings exist primarily at intersections, but is also possible at a mid-block crossing on one block. Although pedestrian activity is promoted because of adjacent storefronts and street tree cover, the wide streets and lack of crossing opportunities along the road limit pedestrian flow from one side of the street to the other.

Existing plan



Existing section

DESIGN ALTERNATIVES

> 3 ORIGINAL ALTERNATIVES

As design considerations to address the challenges of the road and achieve the goals for the improved function of the new streetscape began to unfold, three distinct design options were formed.

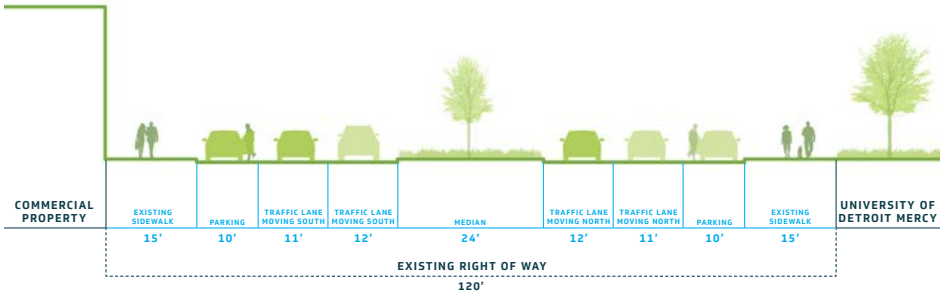
Each of these design options were explored through plan and section drawings, comparing the existing conditions to the proposed. All three options introduced protected bike lanes, retained the parking lanes, proposed bumpouts at intersections, and added street trees within new sidewalks. The variations of the options included decisions for reducing the median, reducing vehicular traffic to one lane in each direction, and the extension of the sidewalks. At least one or a combination of these streetscape variations were necessary to accommodate the width of the added bike lanes.

All three options were also presented before the community and stakeholder meetings. Feedback from those meetings helped to inform the design process. Using the comments and concerns of the community members and stakeholders, a number of design studies were produced in order to test and further illustrate the function of the designs. These studies included options to designate a devoted bus rapid transit lane, options experimenting with the layout of the parking lane along the sidewalk versus along the median, street intersection treatments, bike lane crossings, right hand turn lanes, bus stop locations, and emergency vehicle assess studies.

Overall cost estimates were calculated for the implementation costs of the three original alternatives. The cost estimate results along with important feedback from the community and stakeholder meetings helped to narrow the three design alternatives down to two: Options A and B. The results from the design studies and community feedback has also helped to shape the final two design option proposals for Livernois Avenue. This section includes a greater look at all three original design alternatives along with the studies that have shaped the final design proposals for Options A and B.

> WOULD MINIMAL ALTERATIONS WORK?

The first alternative proposed minimal design intervention on Livernois Avenue with the purpose of maintaining certain elements of the streetscape, including the wide median, while providing the most basic desired improvements. This strategy was intended to be the lowest cost option. The proposed improvements could be implemented solely through the re-striping of the roadway and the addition of delineator poles. This alternative proposed to decrease the vehicular traffic lanes to one lane in each direction. The on-street parking lanes would then shift out away from the sidewalk to open up space on the street for an 11 foot protected bike lane on each side of the street. The bike lane would have a 7 foot wide travel area with a 4



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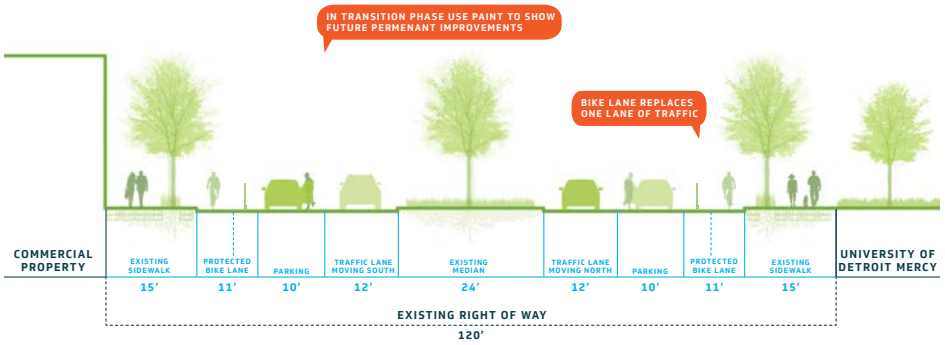


Proposed section

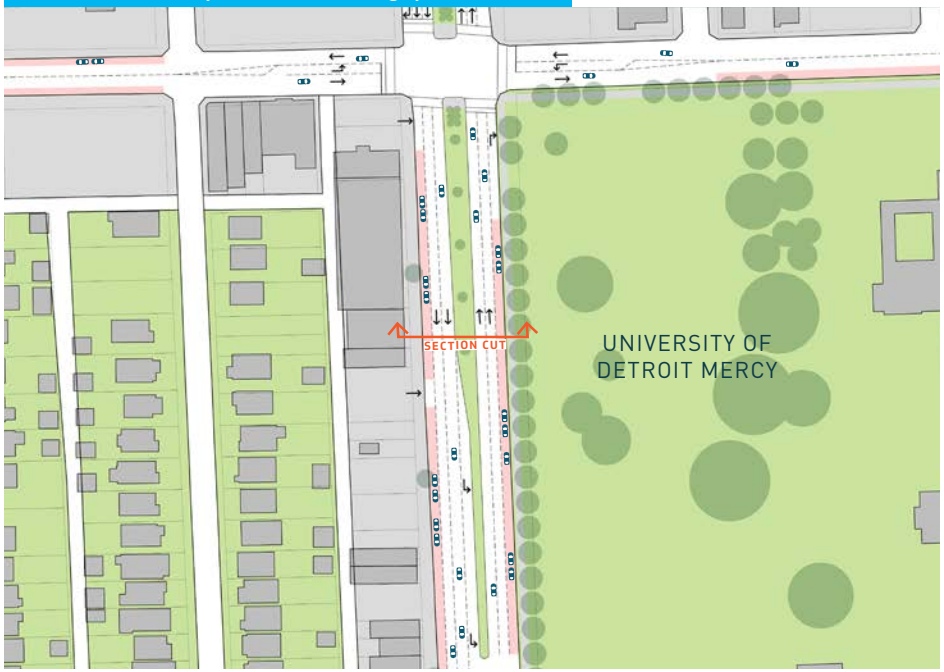
The first alternative design sections illustrate the most minimalistic proposed improvements for Livernois Avenue.

foot wide striped buffer area. The buffer area would be necessary to ensure that people exiting parked cars would have plenty of room to open car doors without injuring passing cyclists. The sidewalks would be repaved, but would remain 15 feet wide with added street trees spreading along each side of the street. The 24 foot wide median would remain the same width, although, in order to remove Michigan left turns and their existing long turning lanes, along with adding new turning lanes at street intersections, much of the new median would need new curbs to be added. Within the new median, street trees would fill the length of each block.

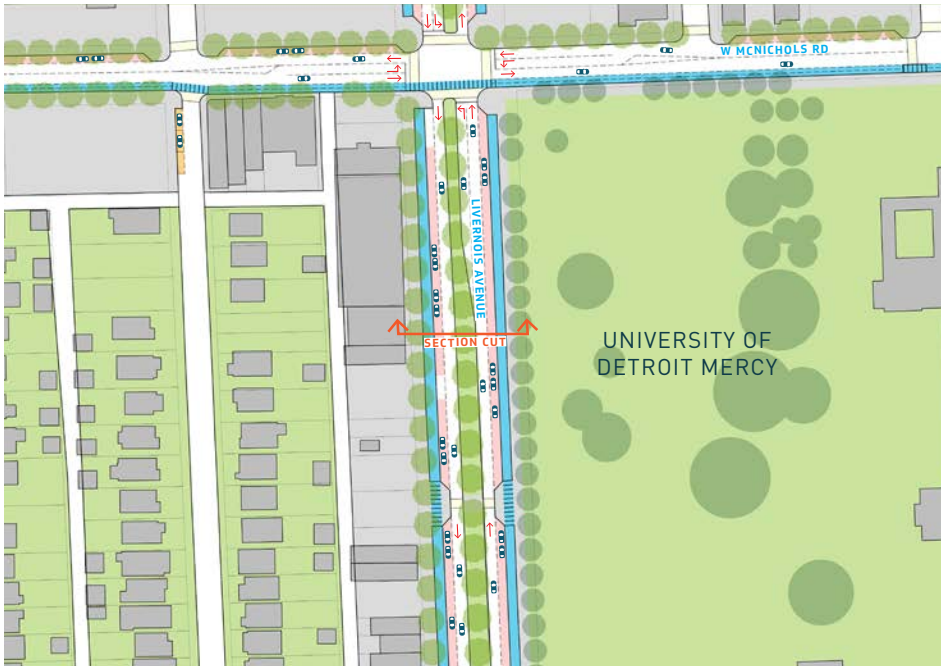
Once preliminary cost estimates were calculated for all three alternatives, the first alternative which was designed to be the least expensive option was found to be of a similar cost to second alternative. Compared to second alternative, which would include the opportunity for a future bus rapid transit lane, the improvements included in the first alternative would have a less significant impact for the same price. Within the same time frame, feedback from community and stakeholder meetings provided additional challenges for the feasibility of the first alternative. Both the community members and fire department had concerns that emergency vehicle access would be blocked because cars would have nowhere to pull out of the traffic lane to allow emergency vehicles to pass. The fire department would not accept the width that was available for travel lanes while maintaining the median at the current width.

In the end, the first alternative was found to be a less justifiable use of capital investment when compared to the other two alternatives, and also was found not feasible for the function of Livernois Avenue. Consequently, the first alternative was negated from the proposed options.

The most minimal impact alternative design plans



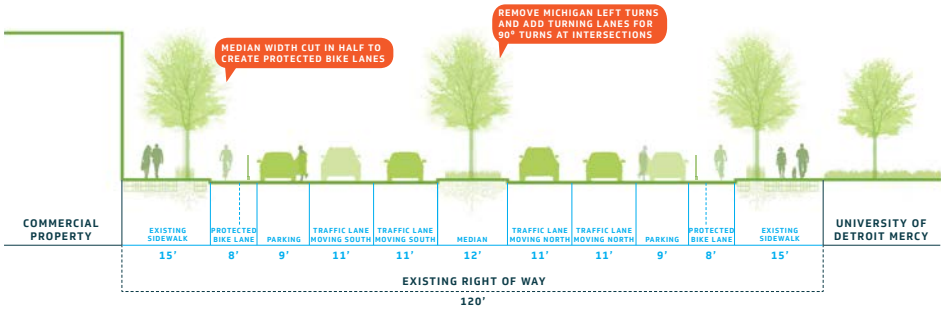
Existing plan



Proposed plan

> A MULTI-MODAL TRANSIT ORIENTED STREETSCAPE

The second alternative proposed adding similar streetscape improvements as the first, but relied on the reduction of the median width in order to add a protected bike lane and keep two lanes of vehicular traffic. The median width would be reduced by half to 12 feet wide. Two traffic lanes moving in each direction would be narrowed to 11 feet as a traffic calming measure. An 8 foot bike lane, with 5 feet for travel and 3 feet for the buffer area, would be protected by the parking lane positioned between the bike lane and traffic lanes. The sidewalks would remain at 15 feet in width, but would be shaded by a new row of street trees on each side of the street. The second alternative afforded the possibility of creating a future bus rapid transit (BRT) lane out



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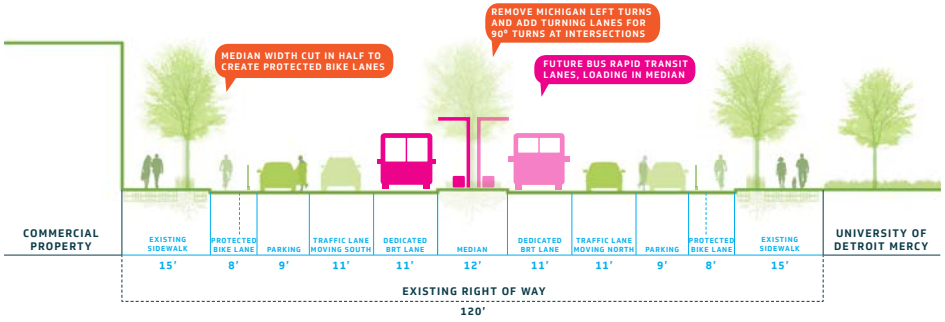
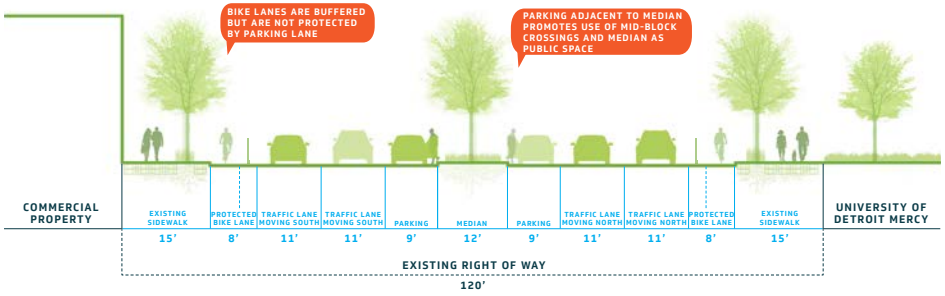


Proposed section

A future bus rapid transit lane could replace the second traffic lanes with the potential to locate bus stops in the median.



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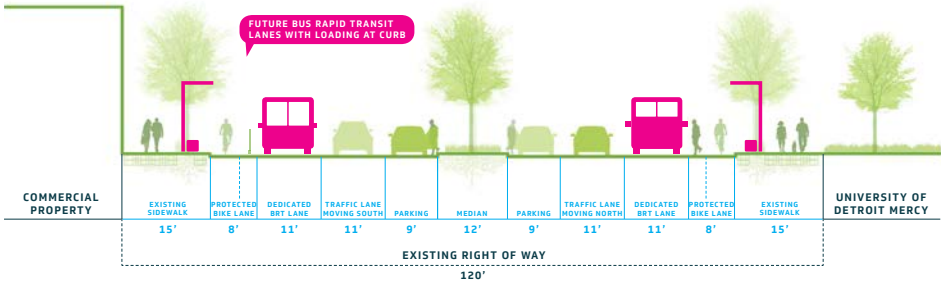


Proposed section

By locating the parking lanes along the median, a future bus rapid transit lane could run adjacent to the bike lane and have bus loading and stops along the sidewalk.

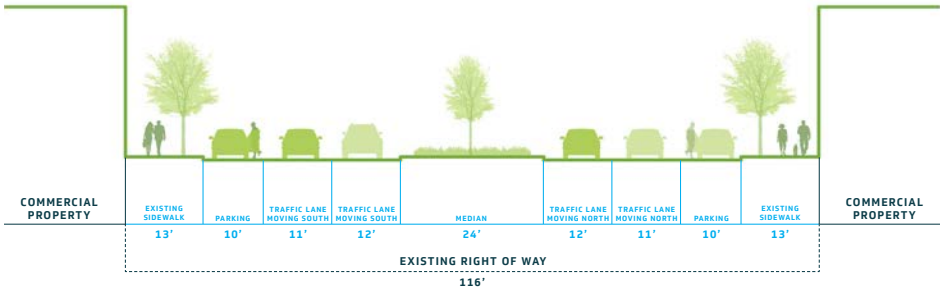
of one of the two proposed traffic lanes moving in each direction. Sectional studies were produced to test the configuration of the lanes on the street. In one variation, the BRT lane would replace the traffic lane closest to the median. For another variation, the two parking lanes were moved to the center to border each side of the median and the BRT lane would run next to the bike lane. These variations would affect the placement of the bus stops. The placement of the BRT lane would affect whether the bus stops are located along the median or along the sidewalk. These considerations are very specific design details which would continually need to be worked out as the final design strategy is developed. The results of these sectional studies, along with community feedback, both, have been translated into the first final design proposal for Livernois Avenue, presented in Option A.

> LUSH LIVERNOIS

The design explored through the third alternative focused primarily on implementing major improvements to the pedestrian experience along Livernois Avenue, while enhancing the business platform of the road by defining the area as a destination rather than a fast-paced thoroughfare. The revitalized streetscape would offer 23 foot wide sidewalks with an allée of street trees on each side of the road. The median would be reduced to 12 feet with a row of trees planted within. The traffic lanes would be reduced to one lane flowing in each direction ensuring ease for pedestrians when crossing the street. A generous parking lane would border a protected bike lane running along the shady, park-like sidewalk. Planters could be placed between the bike lane and parked vehicles to add color and interest within a buffer area. The leafy-green and shaded sidewalks would have enough space for local businesses to add café tables and chairs, clothing racks, temporary signage, or even sculpture pieces.

The result of generously creating space for pedestrians, local businesses, cyclists, parking lanes, and the growth and establishment of healthy street trees would equal the creation of a lush, park-like avenue, welcoming for locals, visitors, and even passers-by to enjoy a pleasant experience along Livernois Avenue. Even speeding and road rage has been shown to be reduced along streets with an atmosphere proposed by this alternative.

As the design process developed through creating drawings and making presentations at a series of community and stakeholder meetings, one major concern about the third alternative surfaced. Both the community and the fire department voiced the same concern as found with the first alternative due to the reduction to one traffic lane. The assumption was that emergency vehicle access would be obstructed because of an absence of open space for vehicular traffic to pull over out of the single traffic lane. Immediately following the voicing of this concern, a number of studies were generated in plan and section in order to test the feasibility of emergency vehicle access within the third alternative design. Plan diagrams were created to compare



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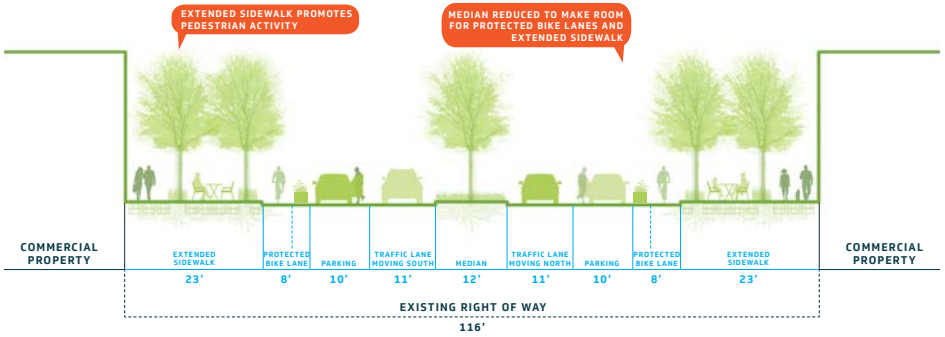


Proposed section

With additional space within the extended sidewalks, two rows of street trees can be planted to create a dense canopy of shade and a leafy, park-like feel along the streetscape.

the third alternative street layout with existing streets with a similar layout. Additional plan and sectional studies were also created to show variations to the street lane widths and the addition of designated void striped pull-over areas. The studies led back to the original assumption.

After further meetings with the fire department, it was determined that for the safety of the community, the median in the third alternative would need to be completely removed. Since this design has been translated into the second final design proposal, Option B proposes a void, striped median which will provide space for vehicles to move out of the traffic lane and allow emergency vehicles to safely pass without any delays.

> BIKE LANE AT STREET INTERSECTIONS

In order to propose the addition of safe and efficient bike lane infrastructure within each design alternative, there needed to be additional consideration for bike lane crossings and turning at street intersections. The three design alternatives proposed implementing protected bike lanes which will run along the sidewalk between the curb and parking lane. The alternatives also proposed the addition of curb bumpouts at street intersections which will push the curb out and force the bike lane to cut through or flow around the bumpouts. There are a number of intersection treatments which have been

Clockwise from top left: Existing intersection at Livernois and W Seven Mile streets, and the first, second, and third alternative street and intersection layouts.

A similar bike lane intersection strategy implemented in Higgins, MT.

implemented across the U.S. to ensure the safety of cyclists. These strategies are used in combination to serve the needs of specific intersections and street layouts.

In the design studies shown to the left three bike lane intersection treatments were employed: bike boxes, refuge islands, and intersection crossing markings. By using bike boxes, a designated zone at the head of traffic lanes would be provided for bikers to wait during the red signal phase to make a left turn. Bike boxes can only be used at signalized intersections; at unsignalized intersections, two-stage turn queue boxes should be implemented, as shown in Figure 14. Refuge islands would be placed at the end of parking lanes, to both protect bikers from cars leaving the parking lane, and prevent cars from encroaching into the bike lanes when turning right. The bike lane would then flow between the refuge island and curb bumpout and through the street intersection within an area of intersection crossing markings. These markings could be made up of solid painted lanes, dashed lines, or bike and arrow symbols to indicate the crossing zone to vehicles. One of the benefits and safety features to bringing the bike lane around, instead of cutting through, the curb bumpout is that the bikers must then respond to the same traffic signalization as vehicles in order to cross the intersection. Precedent images and greater explanations of intersection treatments can be found on the NACTO website.

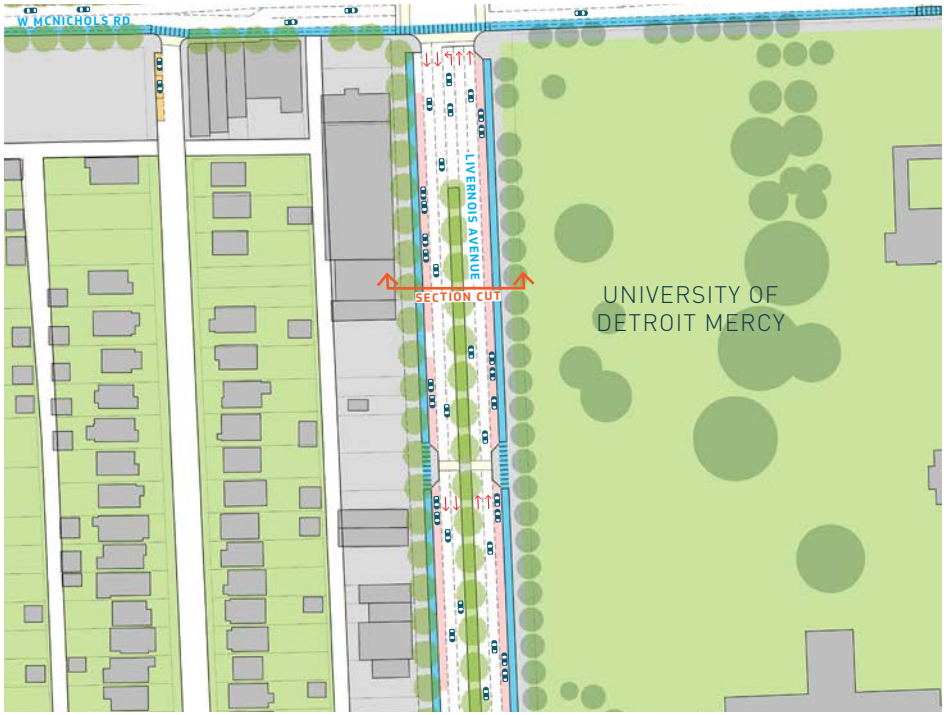
FINAL DESIGN PROPOSAL - OPTION A

> PROPOSED CORRIDOR LAYOUT

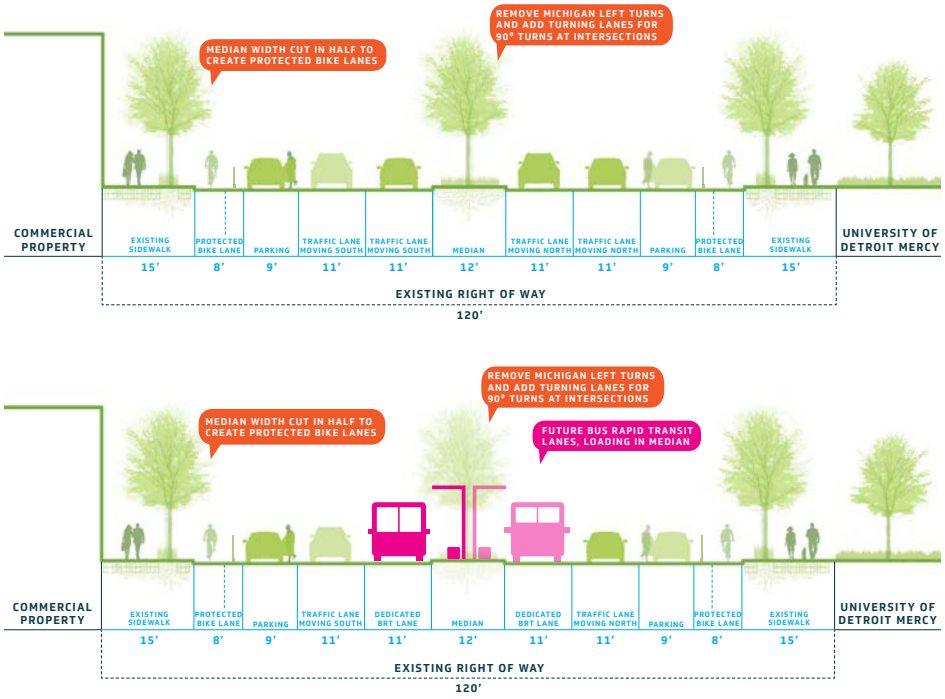
Design Option A proposes alterations to the Livernois Avenue streetscape, which will improve the function of the roadway for vehicular movement, cyclists, and pedestrians, while also offering the opportunity to designate a bus rapid transit (BRT) lane in the future.

Option A will transition Livernois into a multi-modal transit oriented street through the addition of a protected bike lane, the enhancement of pedestrian routes, and the potential for a BRT lane. The protected bike lane will be 8 feet wide with a 5 foot travel width and 3 foot buffer area, and will be located between the sidewalk curb and on-street parking lane. Two vehicular traffic lanes moving in each direction will remain, but will be reduced in width to 11 feet in order to slow traffic. To accommodate both the bike lane and traffic lanes, the median will be reduced by half to a width of 12 feet. The new median width will have plenty of space to establish healthy street trees along the length of the block. Continuous street trees will also be planted along the sidewalks. The width of the sidewalks will remain at 15 feet, but will be repaved to create a revitalized route for pedestrian use.

Finally, the future bus rapid transit lane will be feasibly positioned in the traffic lane closest to the median. Bus stops could potentially be located within medians close to mid-block crossings, or on the sidewalk setback from street intersections within right turn lanes.



Proposed plan



Proposed sections

> TRANSFORMING THE PUBLIC REALM

Through implementing safe and efficient protected bike lane infrastructure, the proposed Livernois Avenue streetscape aims to give residents of the community confidence in the opportunity to commute to work, run errands, or go to the neighborhood park on a bike. Drivers would also feel more comfortable on this stretch of Livernois due to the removal of Michigan left turns and the addition of turning lanes at street intersections.

Newly paved sidewalks, rows of street trees, and a revitalized streetscape are proposed in order to attract use by residents of the near-by neighborhoods, university students, and local business owners, as well as, pioneering entrepreneurs, developers, and visitors. The proposed transformation would set the foundation for increases in commerce, private investment, and value along Livernois Avenue.

The existing street view shows the currently underutilized and hard-to-navigate streetscape conditions.

The proposed streetscape will enhance the experience of pedestrians, cyclists, and drivers along the improved Livernois Avenue corridor.

The proposed transformation would set the foundation for increases in commerce, private investment, and value along Livernois Avenue.

FINAL DESIGN PROPOSAL - OPTION B

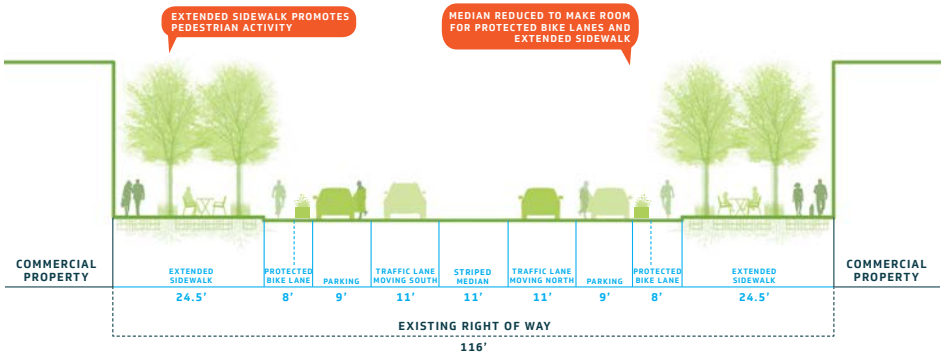
> PROPOSED CORRIDOR LAYOUT

Design Option B proposes a substantial change to the Livernois Avenue streetscape and will have the most impact for creating a lively pedestrian and retail-oriented streetscape.

Through the removal of one lane of traffic flow in each direction, vehicular dominance will be reduced along the street. The on-street parking lanes will be shifted out to create space for an 8 foot wide protected bike lane. This positioning will create a physical safety barrier between vehicular traffic and cyclists and will allow street trees to shade the cyclists. Comprised of a 5 foot travel lane, the bike lane will also have a 3 foot wide striped buffer area. Planter boxes may spaced every 20 to 30 feet within these buffer areas to display color and create visual interest along the streetscape. The width of the vehicular travel lanes will be reduced to 11 feet in order to slow traffic. The median will also be reduced to 11 feet and due to required passage widths necessary for emergency vehicle assess, the median will become a diagonally striped clear area.

The most influential changes to the streetscape will occur along the sidewalks which will be extended to 24.5 feet in width. A double row of street trees will be planted along both sides of the road yielding a lush and shady outdoor space in front of retail shops and businesses. Cafe tables and chairs may be added within this space to create outdoor dining along Livernois Avenue.

Proposed plan

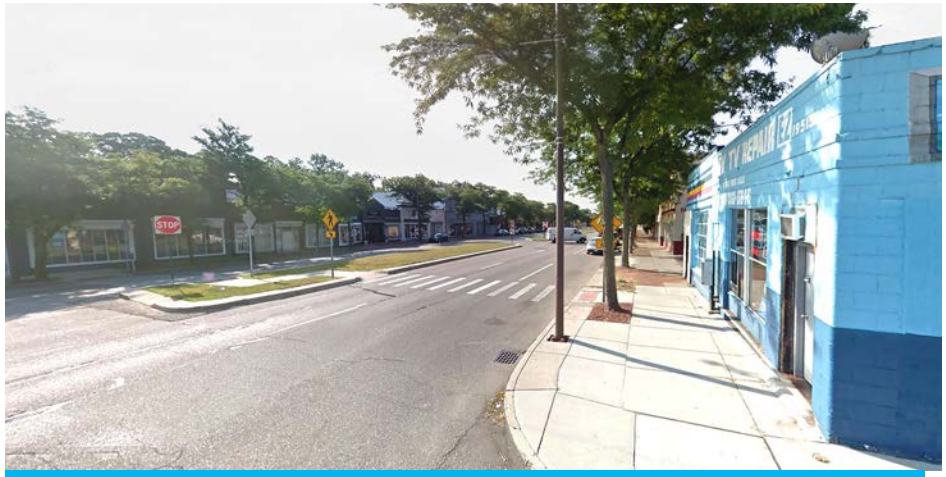


Proposed section

> TRANSFORMING THE PUBLIC REALM

The design proposes to transform the character of Livernois Avenue into an urban hot spot where people come to dine, shop, socialize, or just relax. Generous sidewalk spaces, shaded under street trees, will create a linear park-like setting for commerce and leisure. Cyclists will be able to swiftly move along the bike lane. People will be able to easily and safely move from store to store and across the avenue due to the reduction of traffic lanes and the addition of mid-block crossings, clearly indicated crosswalks, and curb bumpouts.

The streetscape previously dominated by vehicular movement is proposed to become a vibrant public realm space which connects the residents of the community along with people from around Detroit with all that Livernois Avenue has to offer.



The existing street view shows the space available for the addition of improvements to the streetscape.

The proposed streetscape will create a vibrant atmosphere for community residents and visitors alike, while attracting further retail and local business growth along Livernois Avenue.

The design calls for generous sidewalk spaces, shaded under street trees, to create a linear park-like setting for commerce and leisure.

STREETSCAPE DESIGN GUIDELINES

8

GUIDELINES FOR DESIGN DETAILS

> THE AIM FOR CREATING GUIDELINES

This section includes high level goals and guidelines for streetscape elements that are included in the plan. This document provides overall intentions for the streetscape elements and key design and installation considerations. Much more detailed design and engineering is necessary prior to next steps toward installation. This section references streetscape design guidelines from other cities that offer greater detail and are valuable resources. The guidelines included here are specific to the Livernois and McNichols corridors and larger streetscape recommendations, but offer lessons for streetscape design citywide.

The streetscape elements detailed here include street trees, protected bike lanes, bumpouts and crosswalks, and chicanes and other side street strategies. All of these elements contribute to a safe, comfortable and enjoyable pedestrian and bicycling experience which will strengthen both Livernois and McNichols. Seasonal parklets and green alleys are also included as additional strategies that will enhance the commercial corridors and support retail activity. Street furnishings including benches, pedestrian lighting, waste receptacles, cafe tables and bike racks are also considered with corresponding recommended sidewalk plans.

> STREET TREES

Street trees provide many environmental and social benefits to urban commercial corridors. Primary goals and considerations for street trees on Livernois and McNichols focus on place-making and user experience.

A HEALTHY TREE CANOPY CAN INCREASE RETAIL SALES BY **12%** *(Wolf, K. 2009)*

> GOALS

VISUAL INTEREST + SENSE OF PLACE

- Street trees provide a sense of scale, visual interest and beauty to help make the area a destination.
- Tree canopies arching over the street and sidewalk will create a unique sense of place. A continuous line of street trees with consistent spacing helps to establish a visual rhythm for the street.
- Different species of trees can visually distinguish stretches of the corridor into unique zones and provide cues for wayfinding.

PEDESTRIAN EXPERIENCE

- Shaded seating areas and sidewalks are more comfortable for people to interact, unwind, linger and support local businesses.

PROPERTY VALUE

- Street trees increase property values and attract new businesses. People are willing to pay more for goods and services on streets that have trees.[1]

ENVIRONMENTAL BENEFITS

- Trees improve air quality for residents and visitors and can also help manage stormwater runoff.

> GUIDELINES

INTEGRATION WITH OTHER STREETSCAPE ELEMENTS

- The location and spacing of new street trees should be coordinated with the location of other street amenities, such as lighting, seating, special paving, and utilities as well as business entries. Trees should not block street lights.

1 This study showed that consumers were willing to pay 9 percent more in small cities and 12 percent more in large cities for equivalent goods and services in business districts having a healthy tree canopy. Wolf, K. L. University of Washington. (August 2009) Trees Mean Business: City Trees and the Retail Streetscape. http://www.naturewithin.info/CityBiz/MainStreetNews_Aug09_Trees.pdf

SIZING

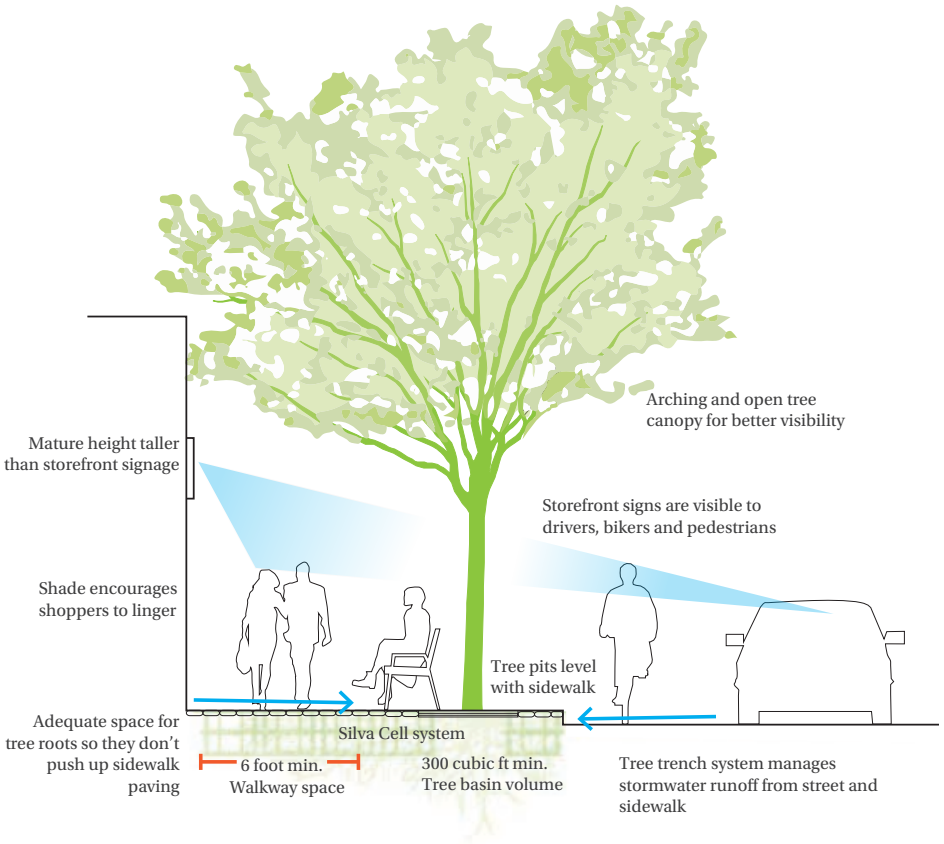
- Tree species should be carefully selected, with preference for medium to large trees that are tolerant of tough urban conditions.
- Street trees should be planted along the entire stretch of the Livernois and McNichols corridors, regularly spaced at 25-40' intervals, depending on tree species and other street conditions.

TREE BASIN DESIGN

- In-ground basins for the trees should be designed with appropriate sizing and base material so they are large enough for tree roots to spread out without causing the sidewalk pavers to buckle, with at least 300 cubic feet of per tree basin[2].The planting basins can be connected underground, creating a tree trench that maximizes root growth.
- Permeable pavers should be installed on top of the tree basins/trenches to allow stormwater infiltration.
- Below grade, a Silva Cell system is recommended to provide structural support and create ideal growing conditions for healthy street trees.
- Trees basins should be properly irrigated have a means of aeration. The system be engineered to manage stormwater runoff from the street and sidewalk where possible.

> VARIATIONS

- The widened sidewalk in Option B allows for a double row of trees.



2 City of Minneapolis Urban Forest Policy: http://www.ci.minneapolis.mn.us/www/groups/public/@cped/documents/webcontent/convert_282934.pdf

PROTECTED BIKE LANES

> GOALS

MAKE BICYCLING ACCESSIBLE, SAFE AND FUN

- Protected bike lanes make bicycling safer and more enjoyable for all ages and abilities.
- Buffers help reduce conflicts with motor vehicles.
- Biking improves resident and community health. It reduces incidents of chronic disease and stress for improved long-term health.[1]

PROVIDE ACCESS TO JOBS + SERVICES

A city-wide bicycling network:

- Provides transportation choices for people to get to job centers, job training, education and neighborhood services.
- Improves the ability of people to travel safely via bicycle and creates a more flexible commute.
- Offers direct, convenient routes to many destinations along routes where bikers feel comfortable.

BUILD ECONOMIC GROWTH

- Protected bike lanes promote development and increase property values.[2]
- Retail customers on bike tend to make more frequent trips and spend more money than customers traveling by car. [3]

> GUIDELINES

SIZING

- AASHTO standards require a minimum bike lane width of five feet from the curb face.
- A bike lane buffer of three feet allows enough space for bikers to ride outside of the "door zone," avoiding conflicts with opening doors from parked cars in the adjacent parking lane and with people exiting them.

PAINT

- The buffer should be marked with two solid white boundary lines with interior diagonal cross hatching to indicate where cars are discouraged from crossing. The buffer boundary lines may be dashed at intersections and driveways for clarity.

> VARIATIONS

TEMPORARY DELINEATOR POSTS - *LIVERNOIS OPTIONS A + B, MCNICHOLS*

- Flexible delineator posts should be used temporarily during an initial education period to provide an additional barrier.
- Posts should be removed before winter to allow for snowplow access in the bike lane.
- Recommended spacing is every 20 feet, in coordination with adjacent on street parking spacing.

RAISED PLANTERS - *LIVERNOIS OPTION B*

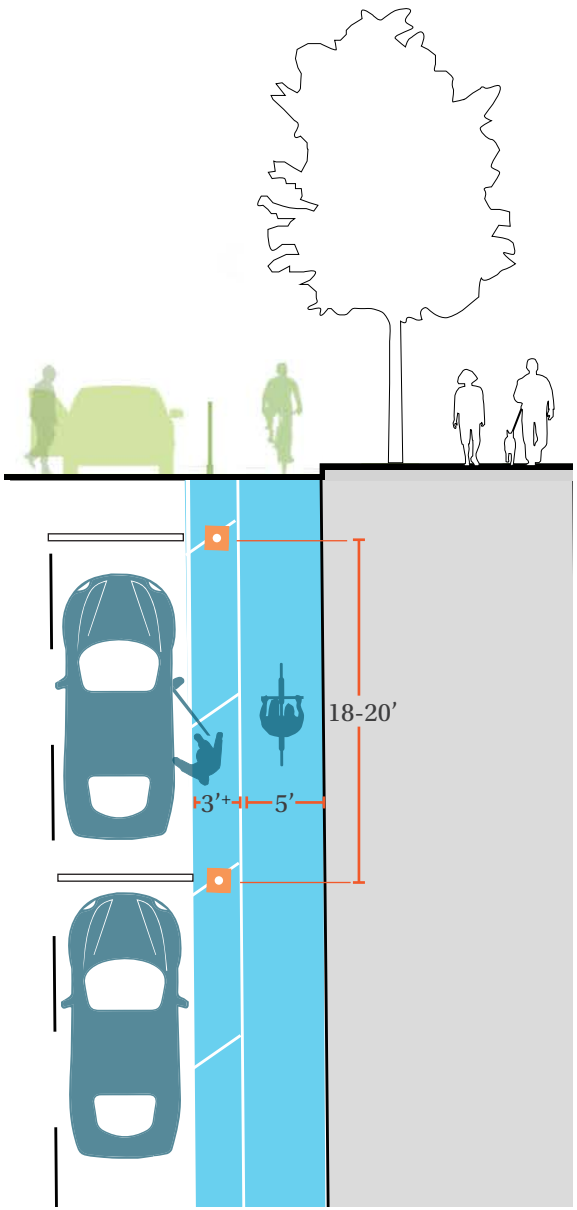
- Planters provide an aesthetic barrier to the bike lane by adding greenery and color to the street.
- Sturdy, semi-permanent styles, such as concrete planters should be used.
- Plants should be selected carefully. A single species will decrease maintenance and provide visual continuity.
- Planters present a higher cost and their installation should be prioritized in areas with high pedestrian activity. They should only be considered if a strong maintenance program is in place.

BOLLARDS - *MCNICHOLS (SOUTH SIDE OF STREET)*

- Bollards provide a visible, vertical barrier in the bike lane buffer and are a more permanent option.
- Because the south side of McNichols is not protected from a row of parked cars, bollards should be installed 10-20 feet apart, especially at the beginning of blocks where cars may try to turn into the bike lake.

1 Beil, K. "Physical Activity and the Intertwine: A Public Health Method of Reducing Obesity and Healthcare Costs," 2011.
2 Anderson, M., Hall, M.L., Protected Bike Lanes Mean Business: How 21st Century Transportation Networks Help New Urban Economies Boom. People for Bikes. Jan 2014.
3 Clifton, K.J., Morrissey, S., Ritter, C. "Business Cycles: Catering to the Bicycling Market,"TR News 280, 2012: 26-32.

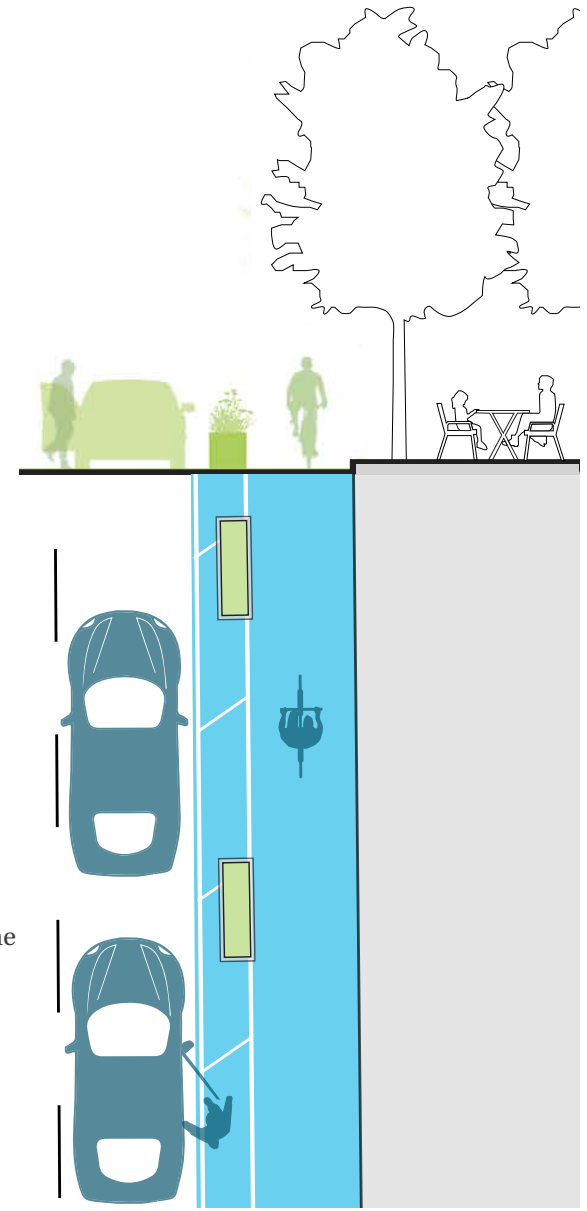
PAINT WITH BOLLARDS OR DELINEATORS



Spacing of posts and planters should not interfere with parked cars

A 3’ minimum buffer zone avoids car door conflicts and protects the biker

PAINT WITH PLANTERS



BUMPOUTS

A curb bumpout is an extension of the sidewalk into the parking lane, shortening the crossing distance at intersections. Bumpouts also provide more space for plantings and street furnishings, such as benches, trash cans and bike racks, and can support stormwater management with bioswales.

> GOALS

PEDESTRIAN SAFETY + COMFORT

- Bumpouts increase safety of pedestrian crossings by making pedestrians more visible to drivers, shortening the crossing distance, physically and visually narrowing the street, and slowing cars down.
- Curb bumpouts are combined with visible crosswalks.

PARKING LANE BUFFER

- Curb bumpouts will be placed on each corner where there is an on-street parallel parking lane.
- This protects the parking lane and ensures that vehicles will not drive in the parking lane.

>VARIATIONS

- In areas with high pedestrian traffic, mid-block bumpouts should be installed and incorporate street furnishings and plantings.
- Bus bumpouts must have loading zones clear of any plantings or streetscape elements. It is recommended that the bike lane is elevated at bus bumpouts to allow ADA access without multiple curb ramps. Bus bumpouts may incorporate bus shelters, lighting and other street furnishing outside of the loading zones.
- Bumpouts can incorporate bioswales to help manage stormwater.

> GUIDELINES

LOCATIONS

- Located at every intersection on Livernois and McNichols where there is an on-street parking lane.
- Additional bumpouts should be placed mid-block in denser retail areas on Livernois.

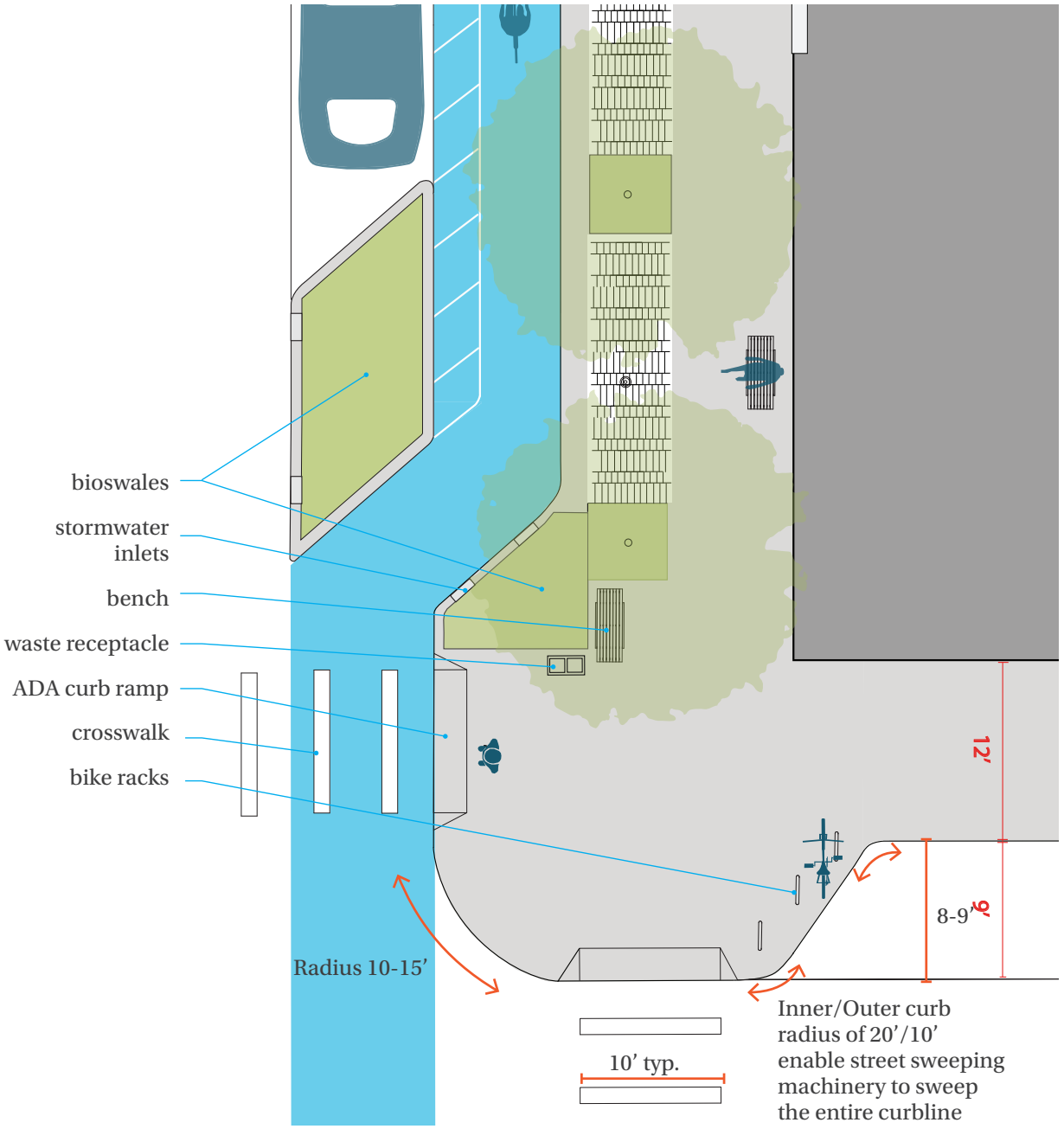
SIZING

- Bumpouts should be designed to maximize pedestrian space, while accommodating turning requirements of vehicles and allowing for ease of maintenance by street sweepers.
- Crosswalks and bumpouts should meet all ADA guidelines.

MAINTENANCE REQUIREMENTS

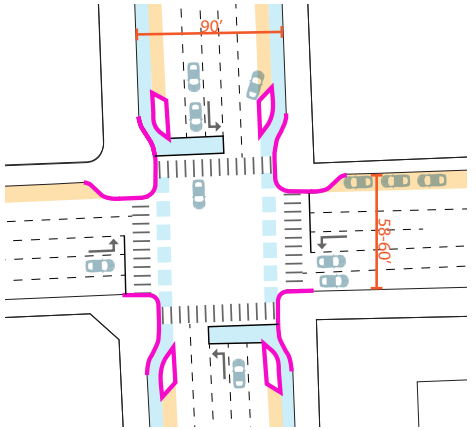
- Any stormwater infrastructure incorporated into the bumpout will require maintenance to ensure that is does not become blocked with debris.
- A maintenance strategy should be agreed upon between the City, Detroit Water and Sewerage Department, and any other partners before construction.

BUMPOUT STANDARD ELEMENTS

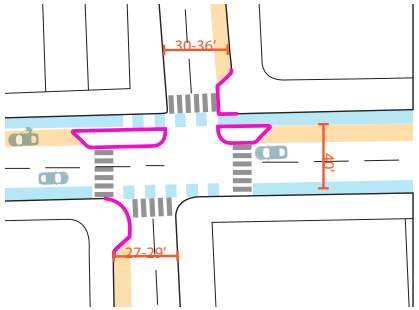


VARIATIONS

LIVERNOIS, GENERAL



MCNICHOLS RETAIL STREET



CHICANES

During the pop-up streetscape installation, many residents perceived an increase in cut-through traffic and speeding on neighborhood side streets. Side street traffic calming has been a concern for several years, and will be an important component as the City moves forward with streetscape changes on Livernois. Chicanes were preferred by the community and approved by fire officials as a feasible option to manage traffic.

84 *people said they noticed increased traffic on the side streets during the pop-up installation (survey responses)*

> GOALS

SLOW DOWN + DETER CUT-THROUGH TRAFFIC

- Chicanes force drivers to slow down on side streets, and also may make it less likely that drivers will use the neighborhood street as a shortcut in the future.

HIGHLIGHT RESIDENTIAL ZONE

- The use of side street traffic calming strategies differentiates residential streets. Neighborhood signage can also be incorporated, building community identity.

> GUIDELINES

LOCATION

- The streets east and west of Livernois, especially Stoepel and Warrington, were noted to be most affected by cut through traffic. Additional resident feedback and traffic data will be an important next step in determining where to employ traffic calming strategies.
- Chicanes are recommended for streets with driveways and alternatives to on-street parking, as they will reduce the number of parking spaces.

PLANTINGS

- Chicanes should be planted with low maintenance trees and perennial plants, with heights and forms that will not obscure drivers' views.
- Chicanes should be designed to capture and infiltrate stormwater runoff from the street.

SIZING

- Chicanes should allow two-way traffic to maneuver at a reduced speed. Chicanes should extend far enough into the street to ensure single vehicles cannot simply drive straight through and avoid the curves.
- Chicanes should allow safe access to resident driveways

SAFETY

- A chicane design may require additional striping, signs and reflective paint on the curb to ensure drivers are aware of the slight bend in the road.

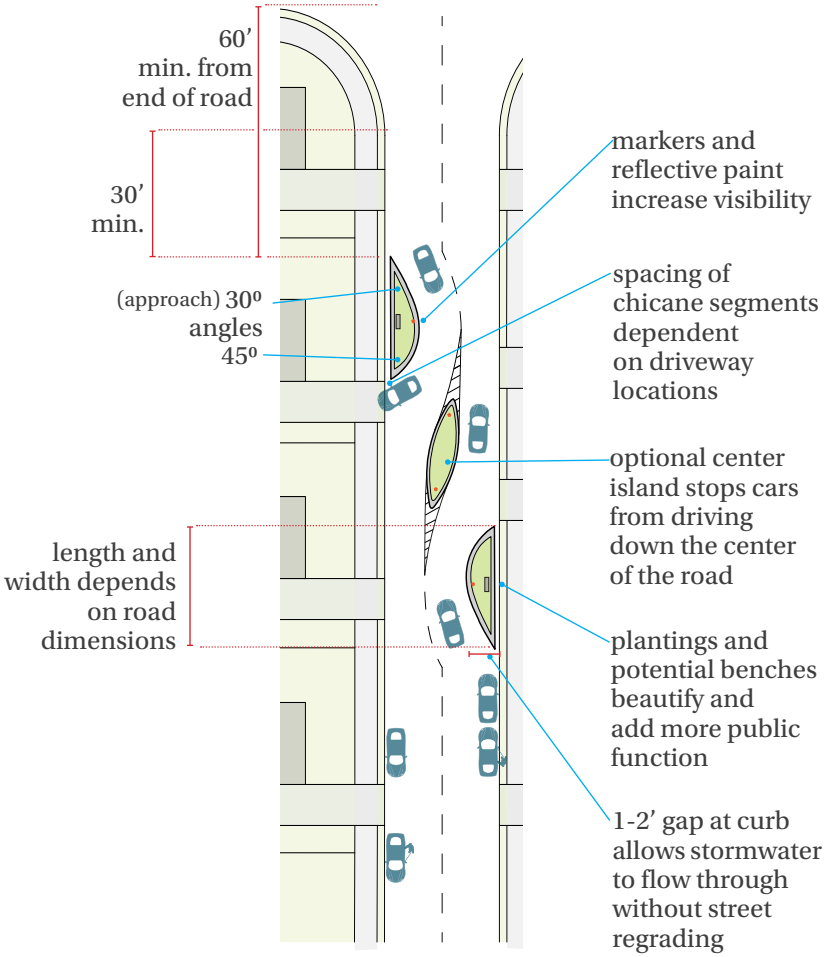
SHORT TERM STRATEGIES

- Cheaper interim strategies may be employed, such as large flower planters to serve as bump outs or chicanes before funds are gained for more permanent options. These can be used to gather data during a trial period.

MAINTENANCE REQUIREMENTS

- The space between the chicane and the curb may become clogged with leaves or debris and should be cleaned regularly.
- Any plantings will need to be irrigated, weeded and trimmed regularly.
- The curb radii should allow street sweepers and snow plows to easily service the street with minor adjustments.

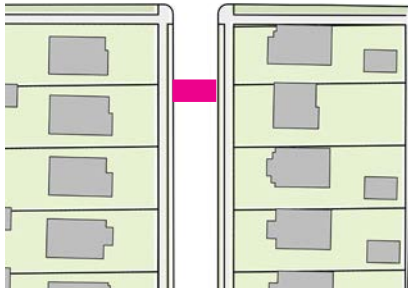
CHICANES



OTHER STRATEGIES

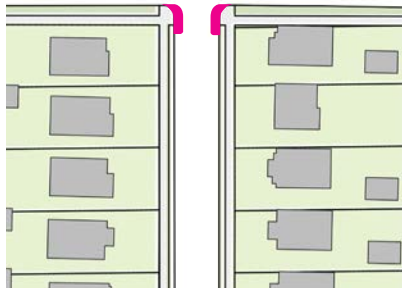
Other traffic calming options that could be considered include:

SPEED HUMPS



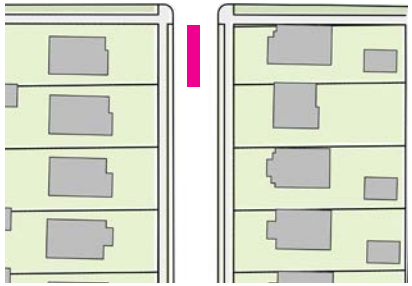
- Relatively inexpensive.
- Reduces speeds to 15-20 mph at the hump.
- Motorists may speed in between the humps if improperly spaced.

CURB BUMPOUTS



- Visually and physically narrows the entrance into the street.
- May be planted to beautify the streetscape.
- Slows turning speeds and may deter traffic from entering.
- Doesn't inhibit speeding in between intersections.

GATEWAY ISLANDS



- Visually and physically narrows the entrance into the street.
- Gateways should be planted to beautify the streetscape.
- Ideal location for visible community signage.

SEASONAL PARKLETS

Parklets can be installed seasonally to create more public space than sidewalks can provide. They create a more vibrant, active street life by encouraging people to patronize local food and drink establishments and linger outside.

DESIGN

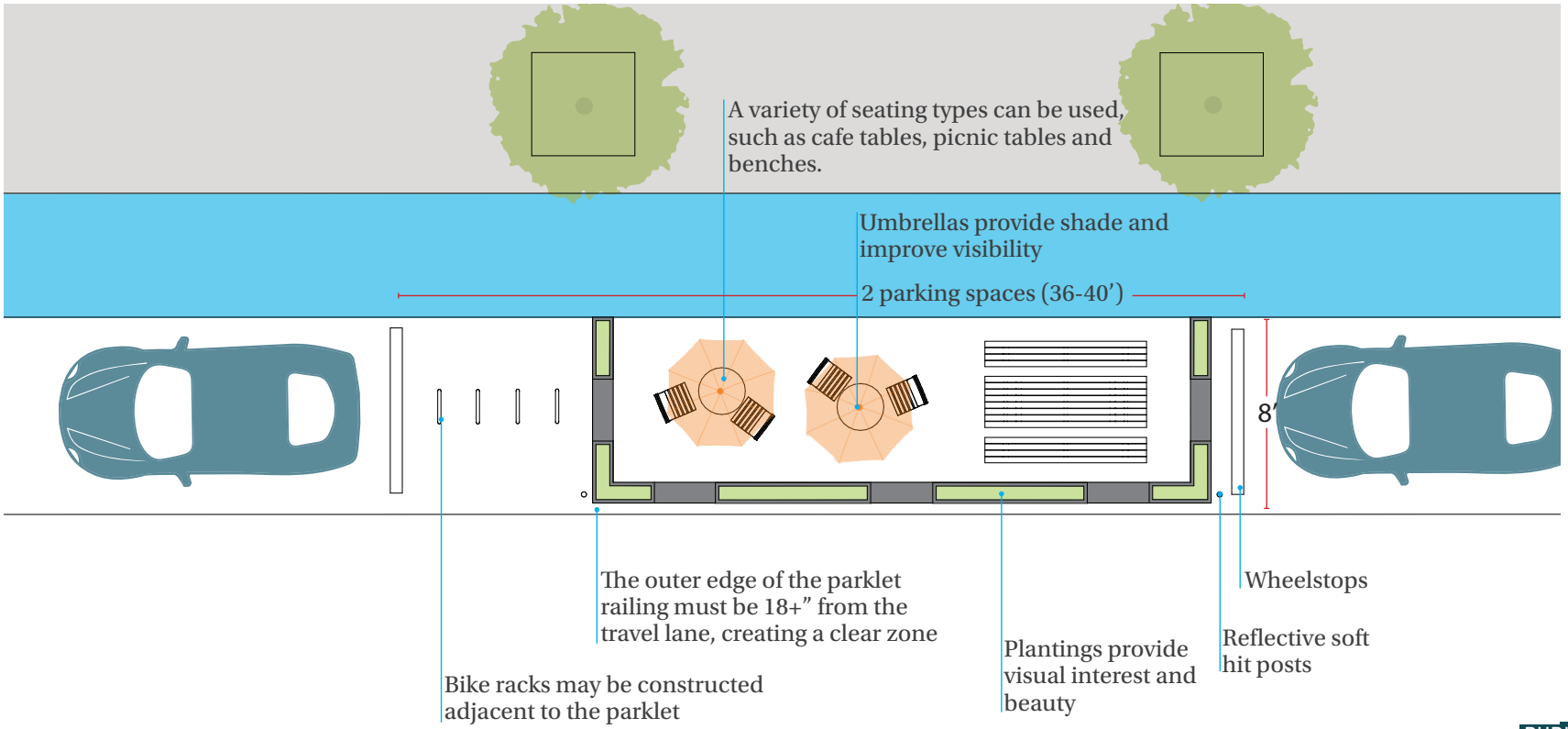
- Parklets should have some vertical elements (e.g planters, umbrellas) to be visible to passing vehicles.
- The sidewalk-facing side of the parklet should be open to pedestrians.
- The parklet should utilize high quality materials and be able to be easily assembled and disassembled.
- Guard rails must be less than 3' high and able to withstand at least 200 lbs horizontal force.
- Parklet may be at grade with street level or built on an elevated platform.

LOCATION

- Parklets should be located on streets with posted speed limits of 25 MPH or less so they are only appropriate on McNichols. Mid-block locations are ideal.
- They should be located in front of businesses or institutions that generate foot traffic and can take care of the parklet.

SIZING

- Parklets should be less the width of than the parking lane.
- Parklets are typically the length of one or two parking spaces, and can include room for bike parking.



GREEN ALLEYS

MULTI-FUNCTIONAL ALLEYS

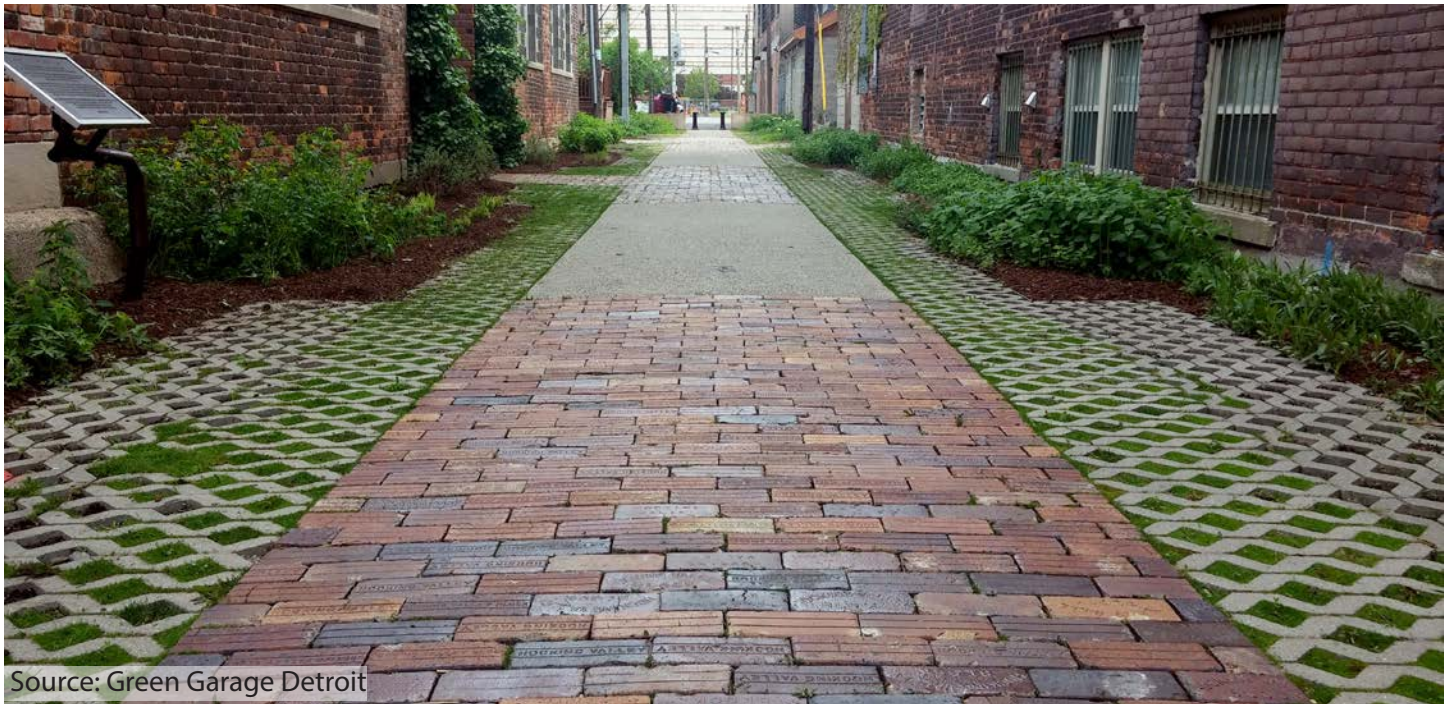
- Most of the businesses on Livernois and McNichols have entrances from the alley, but are rarely used because of the poor condition of the alleys. The alleys current primary use is to service waste disposal.
- Some existing buildings on McNichols have space for employee and limited customer parking that would more effectively utilized if alleys were improved.
- On Livernois, alleys should be used as access points to reach surface parking lots in between buildings, allowing for curb cuts to be narrowed or eliminated from sidewalks.
- Permits may be issued for businesses to use the alleys for temporary events.

STORMWATER MANAGEMENT

- Alleys should be repaved with permeable asphalt and/or permeable paving systems that allow for stormwater runoff from adjacent buildings to infiltrate into the ground.
- If the alley is wide enough, planting areas may be constructed next to buildings with perennial flowers, grasses, small shrubs and vines.

SAFETY + AESTHETICS

- Adjacent fence lines should be clear of any overgrown trees or shrubs that reduce visibility.
- Dumpsters in the alley should follow sanitation codes. New paving materials and plantings will contribute to a more pleasant alley to walk or drive through.
- Alleys should be well lit, either through lighting installed on building exteriors, or additional City light posts.
- Murals may be painted on buildings to create a vibrant, creative atmosphere.



Source: Green Garage Detroit

Detroit's first green alley was installed in 2010 between Cass and 2nd in Midtown. It incorporates stormwater retentions, native plants, historic paving, and lighting. It is a beautiful pedestrian space and connecting piece of the Midtown Loop. The design does not incorporate vehicular access.

STREET FURNISHINGS

Street furnishings help build an active street life by creating a more comfortable place to spend time. Attention to the design, materials and placement of streetscape elements enhances the public realm and adds to a sense of place. All street furnishings should be in the same or similar style to provide a cohesive visual environment. All elements should be made of durable, high quality materials that resist corrosion and graffiti. All street furnishings should be located at least two feet from the curb edge to allow room for snow storage and street utilities and allow for at least six feet of clear walkway width.

BIKE RACKS

- Individual bike racks should be well-distributed along a block, providing convenient access to building entrances. Bus stops, grocery stores and other major destinations should have clusters of multiple racks in one area closeby.
- Racks should be in public view with high visibility and good lighting.
- Bicycles should not block pedestrian throughways by jutting out into a sidewalk.
- Bike racks should support the bicycle by the frame, not the wheels, and accept both U-locks and cables.

BENCHES

- Public seating activates the streetscape by providing a comfortable environment where people can rest, read, people-watch and interact with others.
- Benches should be placed either against buildings and facing toward the sidewalk, closer to curb edge and facing an active storefront, or if sidewalk width allows, perpendicular to the street.

CAFE TABLES

- Outdoor cafe seating creates a place for people to socialize and linger, building a more lively street environment.
- Cafe tables should be located either at the building edge, or closer to the curb, maintaining a clear walkway of at least six feet. Cafe seating areas are not to be roped or fenced off.

PEDESTRIAN LIGHTING

- Pedestrian lighting should be added to street light poles where feasible unless spacing between streetlight poles does not support adequate pedestrian lighting, in which case pedestrian lighting may need to be located between existing poles.
- Placement of light poles should provide adequate light distribution and have a consistent rhythm. Light poles should be coordinated with other streetscape elements, especially street trees.

WASTE RECEPTACLES

- The presence of waste receptacles in areas of high pedestrian activity discourages littering, resulting in a healthier more aesthetically pleasant environment.
- Waste receptacles should be consistently placed near street corners (but out of a clear zone), and as close to bus stops as possible.
- Waste receptacles should have a dual-waste stream options for both recycling and trash, or two separate containers should be located side by side.
- Waste receptacles should be monitored and emptied regularly. Ideally they should be able to open from the side to allow easy access for removal of garbage bags.

These are examples of durable and functional street furnishings made with high quality materials and simple modern designs. All elements should match or have complementary design styles and materials. There are many other examples to choose from.

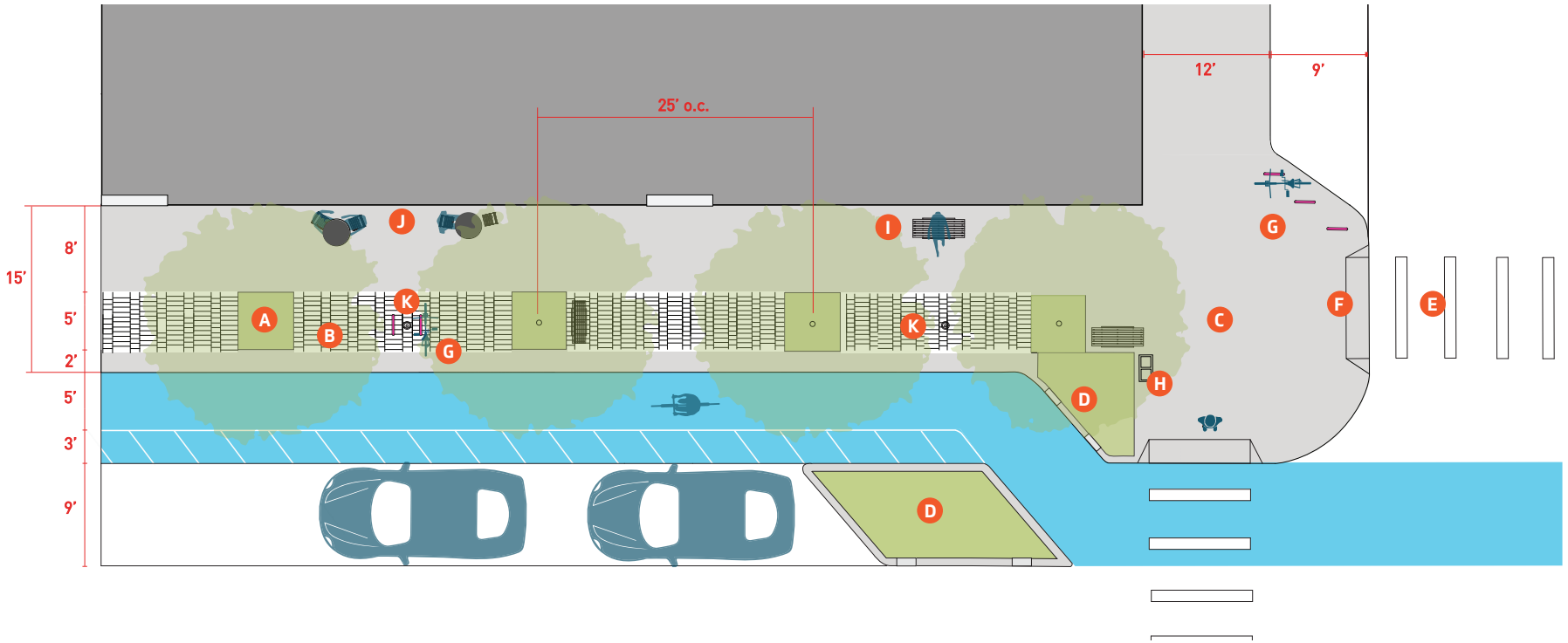
Source: Forms + Surfaces

Source: Forms + Surfaces

Source: Forms + Surfaces

LIVERNOIS - OPTION A

> TYPICAL STREETSCAPE ELEMENTS LAYOUT

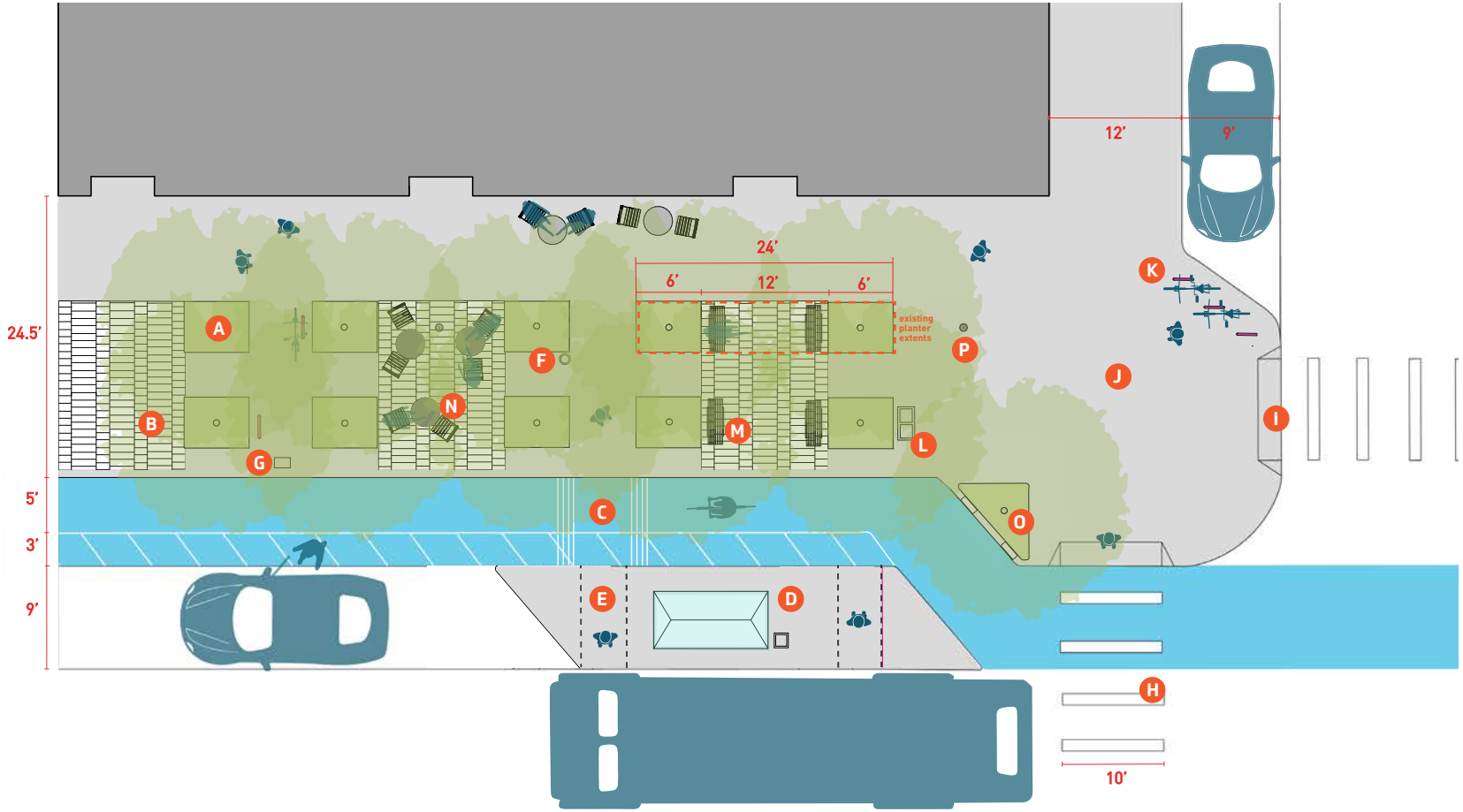


KEY

- A Street trees
- B Permeable paving and tree trench with Silva cell system below grade
- C Curb bumpout
- D Bioswale planter
- E Enhanced crosswalk
- F ADA curb ramp
- G Bike racks
- H Dual-stream waste receptacle
- I Benches
- J Cafe tables
- K Pedestrian lighting

LIVERNOIS - OPTION B

> TYPICAL STREETSCAPE ELEMENTS LAYOUT



KEY

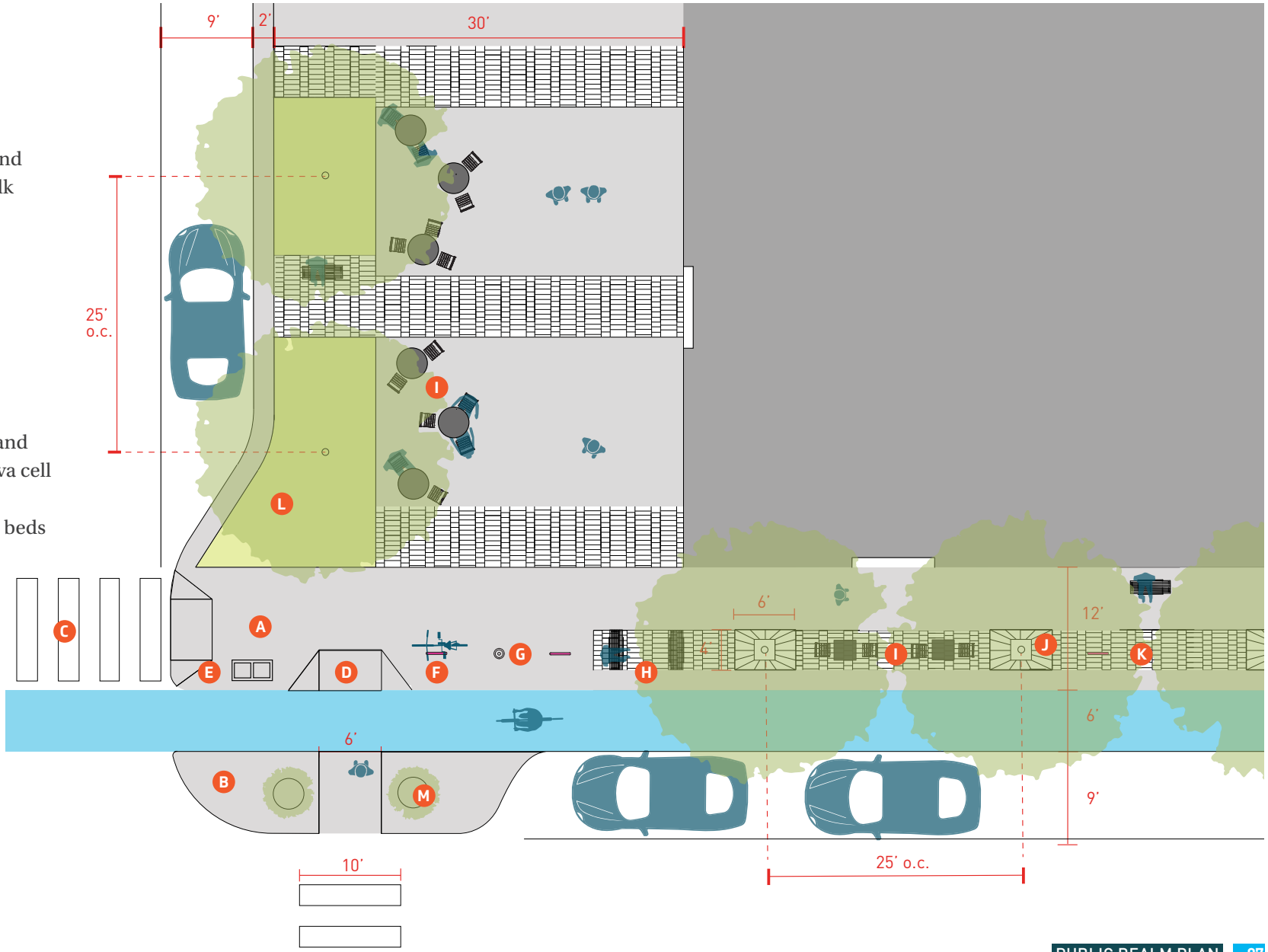
- A Street trees
- B Permeable paving and tree trench with Silva cell system below grade
- C Elevated bike lane
- D Bus bumpout with shelter
- E Bus loading clear zone
- F Existing fire hydrant
- G Relocated parking meter
- H Enhanced crosswalk
- I ADA curb ramp
- J Curb bumpout
- K Bike racks
- L Dual-stream waste receptacle
- M Benches
- N Cafe tables
- O Bioswale planter
- P Pedestrian lighting

MCNICHOLS RETAIL

> TYPICAL STREETSCAPE ELEMENTS LAYOUT

KEY

- A Curb bumpout
- B Curb bumpout island
- C Enhanced crosswalk
- D ADA curb ramp
- E Dual-stream waste receptacle
- F Bike racks
- G Pedestrian lighting
- H Benches
- I Cafe tables
- J Street tree grates
- K Permeable paving and tree trench with Silva cell system
- L In-ground planting beds
- M Seasonal planters

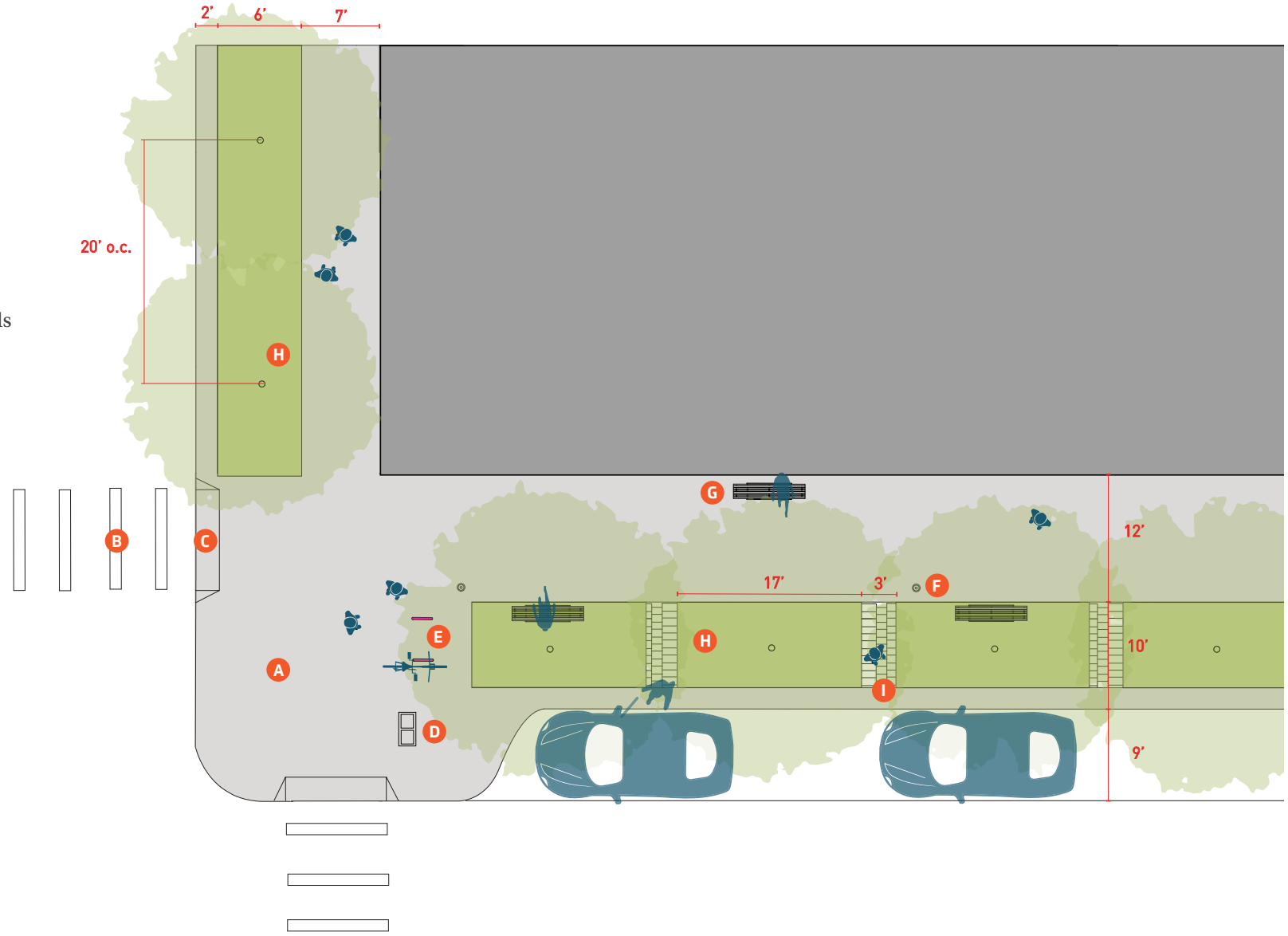


MCNICHOLS AT MARYGROVE

> TYPICAL STREETSCAPE ELEMENTS LAYOUT

KEY

- A Curb bumpout
- B Enhanced crosswalk
- C ADA curb ramp
- D Dual-stream waste receptacle
- E Bike racks
- F Pedestrian lighting
- G Benches
- H In-ground planting beds
- I Parking spot pathways



OVERALL COST ESTIMATES

9

COST ESTIMATES

> DESIGN STRATEGY COSTS

Cost estimates were calculated using estimates for materials and services sourced in the Detroit area. These estimates are the approximate costs for the installation of each design strategy. Listed within both the Livernois Avenue and McNichols Road design strategies is the base strategy category. Within this category are standard updates for the entire streetscape which are not dependent upon the implementation of a design option or site-specific strategy. The base strategy estimates are given as lump sum quantities. The cost given is expected to cover the cost of implementing these strategies to the entire project site. On the other hand, each design option and site-specific strategy is calculated as an approximate cost per linear foot. The overall cost for the implementation of these design strategies is dependent upon the determined bounds of the project site.

LIVERNOIS AVENUE DESIGN STRATEGIES

0 Base Strategy	Estimated Cost
-Remove Michigan Left Turns	**$1.4 Millon**
-Improve 3 Intersections	**$450,000**
-Resurface Road	**$1.2 Million**

1 Livernois Option A Design — $430/LF

- Sidewalks Remain at 12'
- Median Reduced to 12'
- Added Turning Lanes
- 4 11' Traffic Lanes
- 2 9' Parking Lanes
- 5' Separated Bike Lanes
- 3' Bike Buffer Lanes

2 Livernois Option B Design — $900/LF

- Sidewalks Extended to 23'
- Median Reduced to 12'
- Added Turning Lanes
- 2 11' Traffic Lanes
- 2 10' Parking Lanes
- 5' Separated Bike Lanes
- 3' Bike Buffer Lanes

MCNICHOLS ROAD DESIGN STRATEGIES

0 Base Strategy	Estimated Cost
-Improve 1 Major Intersection	**$150,000**
-Improve 2 Minor Intersections	**$100,000**
-Resurface Road	**$35,000**

1 McNichols Neighborhood Retail — $1,012/LF

- 4' Separated Bike Lanes
- 2' Buffers
- 2 Traffic Lanes
- 1 Parking Lane
- Parking Added on Side Streets

2 Marygrove College Park-like Aesthetic — $1,315/LF

- 12' Shared Pedestrian and Bike Path
- 9'Parkway Planting Strip
- 2 Traffic Lanes
- 1 Parking Lane