AGENDA

REGUAR MEETING OF THE BIRMINGHAM MULTI-MODAL TRANSPORTATION BOARD

THURSDAY MAY 4TH, 2023

151 MARTIN ST., CITY COMMISSION ROOM 205, BIRMINGHAM MI

***************************6:00 pm***************************

The City recommends members of the public wear a mask if they have been exposed to COVID-19 or have a respiratory illness. City staff, City Commission and all board and committee members must wear a mask if they have been exposed to COVID-19 or actively have a respiratory illness. The City continues to provide KN-95 respirators and triple layered masks for attendees.*

A. Roll Call
B. Introductions & Chairpersons Comments
C. Review of the Agenda
D. Approval of Minutes, Meeting of March 2nd, 2023
E. Unfinished Business
    1. **S. Eton Road Design Concepts, 14 Mile to Yosemite**
    2. **Adams Road – Road Diet DRAFT Review**
F. New Business
G. Meeting Open to the Public for items not on the Agenda
H. Miscellaneous Communications
    1. **Multi-Modal Transportation Day 2023 Planning**
I. Next Meeting – June 1st, 2023
J. Adjournment

*Please note that board meetings will be conducted in person once again. Members of the public can attend in person at Birmingham City Hall or may attend virtually at

Link to Access Virtual Meeting: https://us06web.zoom.us/j/88295194746
Telephone Meeting Access: 929 205 6099 US Toll-free
Meeting ID: 824 7795 4435

DRAFT

City Of Birmingham Multi-Modal Transportation Board
Thursday, March 2, 2023
151 Martin Street, City Commission Room 205, Birmingham, MI

Minutes of the regular meeting of the City of Birmingham Multi-Modal Transportation Board held Thursday, March 2, 2023. Chair White convened the meeting at 6:00 p.m.

A. Rollcall

Present: Chair Doug White, Vice-Chair Tom Peard; Board Members Mark Doolittle, David Hocker, Victoria Policicchio, Joe Zane; Alternate Board Members Gordon Davies (not voting), Patrick Hillberg; Student Representatives Sophie Hanawalt, Angie Sharma

Absent: Board Member Anthony Long

Staff: Senior Planner Cowan; City Engineer Coatta, Police Captain Kearney

F&V: Julie Kroll

MKSK: Brad Strader

B. Introductions & Chair Comments
C. Review of the Agenda
D. Approval of MMTB Minutes of February 2, 2023

Motion by Mr. Zane
Seconded by VC Policicchio to approve the MMTB Minutes of February 2, 2023 as submitted.

Motion carried, 7-0.

VOICE VOTE
Yeas: Policicchio, Doolittle, Zane, Hocker, Peard, Hillberg, White
Nays: None

E. Unfinished Business

1. **S. Eton Design Concepts, 14 Mile to Yosemite**

SP Cowan, Mr. Strader, Ms. Kroll, and CE Coatta presented the item and answered informational questions from the Board.

Mr. Zane said he liked Option C3 because the cost was less and still provided bike lanes. He said parking issues on Eton tend to be limited to the area around Griffin Claw during evening hours.

Mr. Hillberg noted that Option B3 would provide long-term benefits to the community.

The Chair said he would prefer to advance the best plan while also keeping the cost in mind. He said he would prefer to select a second-best option only if the Board were directed to do so.

Public Comment

Scott LePage, representing Griffin Claw, said he was concerned about having a bike lane in front of the brewery due to sight line issues with vehicles exiting the parking lot. He asked that the Board consider a bi-directional bike lane on the side of the road opposite from Griffin Claw. He said Griffin Claw could probably lose the parking spots directly adjacent to the entry/exit of the parking lot if additional spots were added further down on Eton. He said he preferred Options B2 or B3, and recommended that at least some of the parking counts occur during summer evenings.

Ryan Tate said that if the curb moved west he would be unable to park in his driveway.

Seeing no further public comment, conversation returned to the Board.

Mr. Zane explained that having a bi-directional bike lane on one side of the street tends to be challenging for both cyclists and drivers to navigate.

Mr. Peard said Option B3 was likely the most beneficial option. He said it had the greatest potential to reduce speeds, would reduce the number of sight distance issues, does not eliminate driveway parking since it moves curbs eastward, reduces the crosswalk length, and creates bike lanes. He noted that this option was similar to the original Option B1, except the parking was removed in Option B3. He stated that it would still be important to get input on the parking removals from the nearby business owners.

Ms. Policicchio recommended an amended Option B2 that retains parking and has the bike lane on the same level as the road. She said no parking should be eliminated from S. Eton because she previously had trouble finding parking outside Griffin Claw. She said she wanted the safest option that would preserve parking. She said ease of parking attracts people to visit the area.

Mr. Zane said he wanted updated parking counts with more detail. He noted that most of the parking difficulty in the area occurred near Griffin Claw in the evenings, and asked whether the Board should be making parking recommendations for the area based on those limited time periods. He said the Board should not eliminate the no parking options from consideration based on those limited data points.

Mr. Hocker said the commercial nature of the area required the retention of as much parking as possible. He said he would prefer Option B2. He recommended that the City solicit more robust feedback from the commercial retail operators in the area.

Mr. Zane said the updated parking counts would indicate what changes might allow S. Eton to become an ideal street. He noted that if parking were reduced it might encourage people to use alternate forms of transportation. He said there might be ways to increase parking in the area while decreasing on-street parking.

Mr. Hillberg said there was substantial evidence from national and international contexts that making areas more walkable, with less parking, increases retail sales. He said he would appreciate more information from Staff and the consultants regarding the issue.

Mr. Peard noted that City zoning requires that establishments provide their own parking, meaning that all establishments in the area have sufficient parking without needing the use of on-street parking.

Mr. Zane summarized that the Board did not seem ready to eliminate any of the four options yet.

SP Cowan and Mr. Strader said they could do more parking counts, look at the worst-case sight distances, and use research and public feedback to fill out the matrix.

In reply to SP Cowan, the Board agreed there should be an open house to solicit public feedback on the designs in April, with a Board discussion on the feedback to occur in May.

F. New Business

1. Adams Road – Road Diet Scope of Work

CE Coatta introduced and Ms. Kroll presented the item. Ms. Kroll answered informational questions from the Board.

In reply to Mr. Hocker, Ms. Kroll said she had a frequently asked questions presentation that addresses concerns like emergency vehicle response times. She said road diets tend to work well for emergency vehicles.

There was no public comment on the item.

G. Meeting Open to the Public for items not on the Agenda
H. Miscellaneous Communications
I. Next Meeting

J. Adjournment

No further business being evident, the Board adjourned at 7:22 p.m.

Brooks Cowan, Senior Planner Director

Laura Eichenhorn, City Transcriptionist

MEMORANDUM

Planning Division

DATE: April 27th, 2023

TO: Multi-Modal Transportation Board

FROM: Brooks Cowan, City Planning
Ryan Kearney, Police Lieutenant
Melissa Coatta, Engineering Department
With assistance from:
Brad Strader, MKSK
Julie Kroll, Fleis & Vandenbrink

SUBJECT: S. Eton Roadway Design Study Session

INTRODUCTION:
S. Eton Road is scheduled for resurfacing between Yosemite to 14 Mile during the spring and summer of 2024 as part of the City's Capital Improvements Plan. The Multi-Modal Transportation Board is in the process of reviewing design concepts for S. Eton Road that will enhance safety for all users and incorporate multi-modal amenities for all users.

BACKGROUND:
On July 11th, 2011, The City of Birmingham adopted a resolution in support of a complete streets policy encouraging safe transportation design for all users. The resolution concludes with the following:

> *"Now, therefore, be it resolved, that the City of Birmingham City Commission hereby declares its support of complete streets policies and further directs City staff to develop a set of proposed policies and procedures to implement Complete Streets practices to make the City more accommodating to all modes of travel, including walkers, bicyclists and transit riders, of all ages and abilities."*

The subject area has been the topic of a number of studies related to land use and transportation given that S. Eton Road divides single family residential neighborhoods from the Rail District and Kenning Park. The Eton Road Coridor Plan (1999) states that the area (Rail District) will be a mixed use corridor with a range of commercial, service, light industrial and residential uses that serve the needs of the residents of Birmingham. The plan acknowledges Eton Road as an

important link in a regional urban bike route system and recommends a designated bike lane (pg. 38).

In 2000, the City followed up recommendations of the Eton Road Corridor Plan by rezoning the triangular area between S. Eton Road, Lincoln Ave, and the Railroad from Industrial to MX – Mixed Use, thus enabling a higher density of commercial, retail, and residential uses in the subject area. It is of note that all uses in the MX – Mixed Use zone are subject to the off-street parking requirements of the Zoning Ordinance.

In 2013, the City approved the Multi-Modal Transportation Plan which goes into more detail regarding recommedations to enhance pedestrian safety and multi-modal connectivity for the corridor. The Multi-Modal Transportation Plan recommends curb extensions along S. Eton to reduce the pedestrian crossing distance and high visibility crosswalks to increase driver awareness of such crosswalks (pg. 51-53). The Multi-Modal Transportation Plan also recommends a buffered bike lane on the west side of S. Eton between Lincoln and Maple, and sharrows on S. Eton between Lincoln and 14 Mile (pg. 56-59). For long term considerations, the Multi-Modal Transportation Plan comments that eventually, bike lanes should be added to all arterial and collector roadways (pg. 54), and that the City may wish to extend its designated bike lanes in place of shared lane markings, stating the following (pg 108):

> *With time, as bicycle levels increase there may be a desire to add a designated bike lane in place of shared lane markings. For many of the roadways this would mean removing on-street parking or widening the roadway. Where the removal of on-street parking is not an option or not desired, the cost to add bike lanes to the roadway independent of a road reconstruction project would be significant. Thus to maximize the impact of finite resources bicycle lanes should be implemented when the road is completely reconstructed.*

In 2016, the City created the Ad-Hoc Rail District Committee which was tasked with recommending an attractive streetscape that creates a walkable environment designed for the safety, comfort, convenience, and enjoyment for all modes of transportation throughout the corridor. The recommendations of the Ad-Hoc Rail District Committee Plan recommended improving pedestrian crossings with bump-outs and better crosswalks along S. Eton. The Committee placed a greater emphasis on enhancing pedestrian crossing near Hazel St. instead of Villa as the Multi-Modal Transportation Plan does. The Committee also recommended concepts with the addition of bike lanes or sharrows to S. Eton from Yosemite to 14 Mile.

The Ad-Hoc Rail District Committee also reviewed the supply and demand of parking on-site vs. on-street in the area to gauge the impact of potentially removing on-street parking along S. Eton. The findings were that the parking demands shifted from office/retail uses in the afternoon to restauraunts in the evening, though very few private parking lots reached full capacity. The Committee pointed out that the 15 publicly available parking spaces in front of Bolyard Lumber are underutilized. The Committee also recommended policy to encourage shared parking in the district by providing the zoning incentives for properties and/or businesses that record a shared parking agreement. Incentives could include parking reductions, setback reductions, height bonuses, landscape credits, or similar offers.

In 2019, temporary road striping with bollards was placed along S. Eton in an effort to reduce crosswalk distance, provide a protected bike lane, and narrow the street to reduce vehicular

speeds. After the trial period, the MMTB was tasked with evaluating the impact of the road pattern on pedestrian, bicycle, and automobile safety.

In 2021, The City's traffic engineering consultants Fleis & Vandebrink (F&V) provided an analysis of the S. Eton striping which includes before and after data for pedestrians, bicyclists, and motorists while comparing accident counts, traffic counts, and traffic speed. The result of the analysis showed that the addition of a bike lane reduced crashes, increased the number of bicyclists, and did not have a significant impact on the adjacent roadway speeds. The final recommendation of the before and after analysis is that a bike facility along S. Eton Road be made permanent, given the following data:

- *The result of the analysis showed an overall crash reduction of 44%.*
- *Vehicle - pedestrian crashes were eliminated*
- *Bicycle volumes more than doubled during the afternoon and over 80% higher on Saturday.*

In September of 2021, the City of Birmingham posted an online survey on Engage Birmingham to obtain resident feedback on the S. Eton temporary striping. Results showed that respondents liked having a protected bike lane along S. Eton, however improvements could be made. Complaints were that the bollards and armadillo dividers were unsightly, the bike lane would gather with sticks and debris, and the beginning and ending of the lanes were inconvienient for cyclists. The poll has been available since 2021 and recently pulled data is included in the attachments.

On October 7th, 2021 (Agenda – Minutes), the Multi-Modal Transporation Board reviewed the analysis report from F&V of pedestrian, bicycle, and vehicular traffic before and after the striping on S. Eton Road. Results of the Engage Birmingham survey were also reviewed. The Board discussed the pros and cons of the current design, and how an opportunity for a more permanent design should be considered when the City repaves S. Eton projected for the summer of 2024.

On November 3rd, 2022 (Agenda – Minutes), The Multi-Modal Transporation Board began a preliminary review of S. Eton design concepts. Staff wanted to narrow down alternatives prior to conducting a more in depth analysis.

The MMTB discussed keeping both bike lanes on the west side versus having bike lanes on each side of the street, where cyclist move in the same direction as vehicular traffic. Feedback regarding the existing design was that the beginning and ending of the bike lane is dangerous for cyclists who have to cross the road and are "dumped" into oncoming traffic at the ending. The MMTB felt that they should consider concepts that include bike lanes on both sides of S. Eton Road during the review process, and asked staff and cosultants to bring such proposals for review.

On January 17th, 2023 (Open House Slides), City staff and its traffic consultants held an open house to present the concepts for S. Eton from 14 Mile to Yosemite Blvd. Members of the public were invited to review the various proposals and provide feedback and commentary. Participants of the open house were asked to vote on their preferred concept. A roll plot containing an aerial image of S. Eton was also provided for participants to place a sticky note on an area where they had comments or concerns for.

On February 2nd, 2023 (Agenda - Minutes), The MMTB reviewed results of the open house and discussed preferences regarding the proposed concepts. In regards to the votes received during the open house, Alternative B received the highest count, which is the concept with raised bike lanes above the curb on each side of the street traveling with the flow of vehicular traffic.

For the west side of S. Eton between Lincoln and Yosemite, city staff discussed the locations of the bike lanes and pedestrian bumpouts in relation to the existing sidewalk, the street trees, driveways, utility poles, and the curb. Staff indicated the bike lanes would be closer to the curb to maintain the existing trees and sidewalk. More detailed analysis would be required on these issues, however staff wanted input on preferences from the MMTB before narrowing their focus.

For the east side of S. Eton between Lincoln and Yosemite, accomodating all existing streetscape along the commercial corridor while adding a bike lane and maintaining on-street parking presents a set of challenges. It is possible to adjust the location of on-street parking spaces to accommodate greater turning visibility. A number of residents and open house participants commented on dificulties with visibilty when turning onto S. Eton from the commercial access streets, particularly around Griffin Claw and Whistle Stop on Palmer Ct and Hazel Ave.

City staff also discussed the stretch of S. Eton between 14 Mile and Lincoln. The traffic pattern could be left as-is with on-street parking on the west side and sharrows painted in the vehicular travel lanes. Or, staff could examine the potential to extend bike lanes from Lincoln to 14 Mile in the City's right-of-way space between the sidewalk and the curb. The MMTB indicated a preference for extending the bike lanes all the way to 14 Mile to encourage more connectivity within the City and neighboring communities. A longer bike lane without an abrupt ending where cyclists have to merge into traffic would enhance non-motorized safety and encourage complete streets connectivity.

On March 2nd, 2023 (Agenda), the MMTB reviewed a more detailed analysis of proposed concepts for S. Eton Road. In order to address concerns and complaints about parked cars blocking visibility when making turns onto S. Eton, the analysis included an Intersection Sight Distance (ISD) evaluation using the guidelines from the Oakland County Road Commission. The result of the Intersection Sight Distance analysis is that very few parking locations on S. Eton satisfy the visibility safety guidelines. Only three parking spaces on S. Eton between Lincoln and Yosemite pass the sight distance analysis.

Given the issues with sight distance, City staff recommended that the MMTB consider updated alternatives that involve removing on-street parking on S. Eton between Lincoln and Yosemite. Justification by staff to consider removing on-street parking on S. Eton between Lincoln and Yosemite is that each property is required to provide on-site parking per the requirements of the Zoning Ordinance, and all commercial properties along S. Eton have their own parking lot or structure. Removing a few parking spaces at each intersection to improve visibility and increase safety would leave S. Eton with a 0.4 mile long parking aisle devoted to very few remaining parking spaces.

The Multi-Modal Transportation Board felt it was best to host another open house where residents could comment on the updated concepts being discussed. The MMTB wanted to to review feedback from the public on significant changes such as removing on-street parking north of Lincoln Ave and potentially extending bike lanes south from Lincoln Ave to 14 Mile Road.

On April 18th, 2023 (Poster Boards), the City held a second open house regarding design concepts for S. Eton. The attendance sheet indicated 27 people in attendance. Posterboards were placed around the conference room at the Department of Public Services for attendees to review and discuss with staff. A brief presentation regarding each board was provided and followed by questions from attendees. Visitors were able to vote on their preferred concepts by filling out comment cards and placing stickers on posterboards.

For the alternatives north of Lincoln Ave, concept C3 with street level bike lanes and removal of on-street parking received the most votes between comment cards and the poster board (13 total). Option B3 with raised bike lanes and removal of on-street parking was second with 7 likes, 1 okay, and 1 dislike. Comments supporting these concepts were that bike lanes should be on both sides of the street, current on-street parking makes visibility dangerous, and west side residents do not want their driveway shortened to accommodate a bike lane.

For the alternatives south of Lincoln Ave, the B1 Concept with street level bike lanes extending to 14 Mile received the most votes with 7 between comment cards and the poster board. A write-in of "Neither" was second with 6 votes. There was concern expressed about losing driveway apron space and possible loss of greenspace and trees with the addition of bike lanes extending south from Lincoln Ave through the right-of-way to 14 Mile.

During the MMTB meeting of March 2nd, 2023, staff was asked to look for additional parking opportunities to compensate for the potentional loss of on-street parking along S. Eton's commercial area. On April 4th, 2023, staff presented a potential concept of 7-8 additional parking spaces at the greenspace on the northeast corner of S. Eton and Lincoln to the Parks and Recreation Board. Board members did not appear enthusiastic about the concept, however they suggested presenting it during the S. Eton Open House for feedback. During the open house, comments regarding an additional 7-8 parking spaces at the northeast corner of S. Eton and Lincoln Ave to offset the loss of parking were all in opposition to the proposal. In general, the community appears to be opposed to this concept, though the MMTB may wish to provide additional commentary and recommendations.

SUMMARY OF UPDATED S. ETON CONCEPTS FOR REVIEW – MAY 4TH, 2023:

S. Eton - Lincoln to Yosemite:
The four alternatives consider maintaining on-street parking, paving an additional bike lane in the right-of-way on the west side of S. Eton, or removing on-street parking from the east side of the street. The alternatives also consider placing the bike lane on the same level as the street, or above the curb.

Bike lanes above the curb may assist the City in providing pedestrian bump-outs at crosswalks, however the additional pavement above the curb creates a number of grading issues with each driveway and access-drive that the bike lanes would cross.

Bike lanes at the street level do not create a grading issue, however this concept makes it more dificult to provide pedestrian bumpouts at crosswalks. Therefore staff recommends that the street level bike lane concept C3 be accomodated with 6' pedestrian islands at Hazel Street and Cole Street. These pedestrian islands would be similar to what exists on W. Maple at the Quarton Lake

Trail crossing near Quarton Lake, and could assist in slowing vehicular traffic due to vehicular redirection and additional signage. High visibility crosswalks are also recommended for Bowers Street and Lincoln Ave.

In regards to on-street buffers between vehicular lanes and bike lanes, City staff prefers no raised separation. A striped buffer, rumble strips, and/or a painted bike lane would enable DPS to keep the bike lanes clear of debris with greater ease. City staff is not opposed to physical barriers though – DPS can find a way to keep any proposed lane clean.

Alternative B1
Bike lanes going with the flow of traffic for the northbound and southbound lanes. Curbs on the east and west side of the street would be brought in to narrow the driving and parking area. Both bike lanes would be placed above the curb. The bike lane on the west side of the street would require an additional 4' of pavement into the right-of-way towards the residential properties. On-street parking would remain on the east side of the street.

Alternative B2 (Updated)
Bike lanes going with the flow of traffic for the northbound and southbound lanes. The west side curb would be brought in while the east side curb would remain in the same location. The west side bike lane would be above the curb while the east side bike lane would be street level with the vehicle lane. On-street parking is removed to accommodate space for bike lanes.

Alternative B3
Bike lanes going with the flow of traffic for the northbound and southbound lanes. Curbs on the east and west side of the street would be brought in. Both bike lanes would be above the curb. No additional right-of-way would be disturbed on the residential side of the street. On-street parking would be removed on the east side of the street to improve visibility and accommodate bike lanes.

Alternative C3
Bike lanes going with the flow of traffic for the northbound and southbound lanes. Curbs on the east and west side of the street would remain in the same location. The bike lanes would be street level with the vehicle lane and therefore require a larger buffer space. On-street parking would be removed on the east side of the street to improve visibility and accommodate bike lanes. Pedestrian islands would be implemented instead of bumpouts.

S. Eton: 14 Mile to Lincoln
If the MMTB wishes to extend bike lanes from Lincoln Ave to 14 Mile through the right-of-way, staff recommends considering whether to place the bike lanes above the curb or below the curb. If the MMTB wishes to keep S. Eton between Lincoln Ave and 14 Mile as-is, additional "Share the Road" signage is recommended.

Alternative A1
No change proposed, keep street dimensions as-is. S. Eton between Lincoln Ave and 14 Mile would maintain two vehicular lanes accomodated by a parking aisle on the west side of the road. Additional sharrows and "Share the Road" signage could be included.

Alternative B1
Bike lanes placed above the curb. 10′ of additional pavement would be placed on each side of the right-of-way to accommodate new bike lanes. Curb to curb distance would remain the same at 28′ with two vehicular travel lanes and on-street parking on the west side of S. Eton.

Alternative C1
Curb to curb distance would expand from 28′ to 44′ with two vehicular lanes and on-street parking. The addition of a 3′ buffer zone and 5′ bike lane on each side of the street would cause the curb to shift an additional 8′ into the right-of-way from the current location.

RECOMMENDATION:
Upon review of the proposed concepts for S. Eton, it is dificult to accommodate for all priorities of the 2011 Complete streets policy Resolution, the Multi-Modal Transportation Plan recommendations, pedestrian safety, bike safety, driver safety, and parking concerns all at once. Final plans for S. Eton Road will have to make some type of trade-off in priorities.

If the MMTB wishes to prioritize the health, safety, and welfare for all modes of transportation along S. Eton and pursue a design that aligns with the Complete streets policy Resolution of 2011 and goals of the Multi-Modal Transportation Plan, staff recommends that the concept C3 for north of Lincoln and the concept C1 for south of Lincoln be pursued with pedestrian islands at popular pedestrian crossings such as Hazel Street and Cole Street. This design would involve the removal of on-street parking between Lincoln and Yosemite, and the extension of designated bike lanes through the right-of-way from Lincoln Ave to 14 Mile. Having street level bike lanes prevents grading issues at the crossing of each driveway and access-drive. Removing on-street parking would address visibility concerns for vehicles turning onto S. Eton from streets such as Hazel and Cole, and the extension of bike lanes from Lincoln Ave to 14 Mile would create continuity and safety for cyclists traveling this section of road.

Pursuing a complete streets policy with option C3 north of Lincoln (as well as options B2 and B3) disrupts on-street parking in front of the commercial businesses on S. Eton between Yosemite and Lincoln Ave. The availability of on-street parking makes it easier for patrons to enter the front of commercial businesses along S. Eton when an on-street space can be found. A number of businesses along S. Eton prefer the quick access to their front door from the availability of on-street parking. However, it is of note that the properties along S. Eton have parking lots in the rear, and are required to satisfy the off-street parking requirements of the Zoning Ordinance.

The City has received a number of complaints regarding on-street parking spaces on S. Eton blocking visibility for vehicles attempting to turn out of the Rail District. The most frequently used parking spaces near Villa, Hazel, Palmer, and Cole Street do not satisfy recommended sight distance guidelines. If the City tries to maintain on-street parking while removing 1-3 parking spaces at each intersection to improve visibility, S. Eton would be left with a 0.4 mile long parking aisle with very few available parking spaces remaining. Most of this parking aisle would be striped off. Staff would also like to note that there are 15 public parking spaces available in front of Bolyard Lumber and that on-street parking is available east of S. Eton in the Rail District as it is a mixed-use, live-work commercial district.

Pursuing a complete streets policy with option C1 south of Lincoln Ave also presents a set of challenges. Extending bike lanes from Lincoln Ave to 14 Mile requires altering the right-of-way where driveways and greenspace currently exists. Most trees in this area are closer to the sidewalk, however some vegetation would be disrupted as the amenity zone between the sidewalk and bike lane would be reduced from 23′ to 15′. The tradeoff of supporting non-motorized transportation in this case means additional impervious surface and some loss of greenspace in the City's right-of-way.

If the MMTB finds that the addition of designated bike lanes on each side of the street north of Lincoln is too disruptive to existing businesses and/or residents, City staff recommends that the MMTB revisit the existing design of what is there today. If the MMTB finds that extending designated bike lanes from Lincoln Ave to 14 Mile is too disruptive to adjacent properties, City staff recommends additional "Share the Road" signage to the existing setup.

SUGGESTED ACTION

Move to recommend to the City Commission that S. Eton between Lincoln and Yosemite be designed as indicated in Concept _____ with the following amenities including:
1. _____
2. _____
3. _____

AND

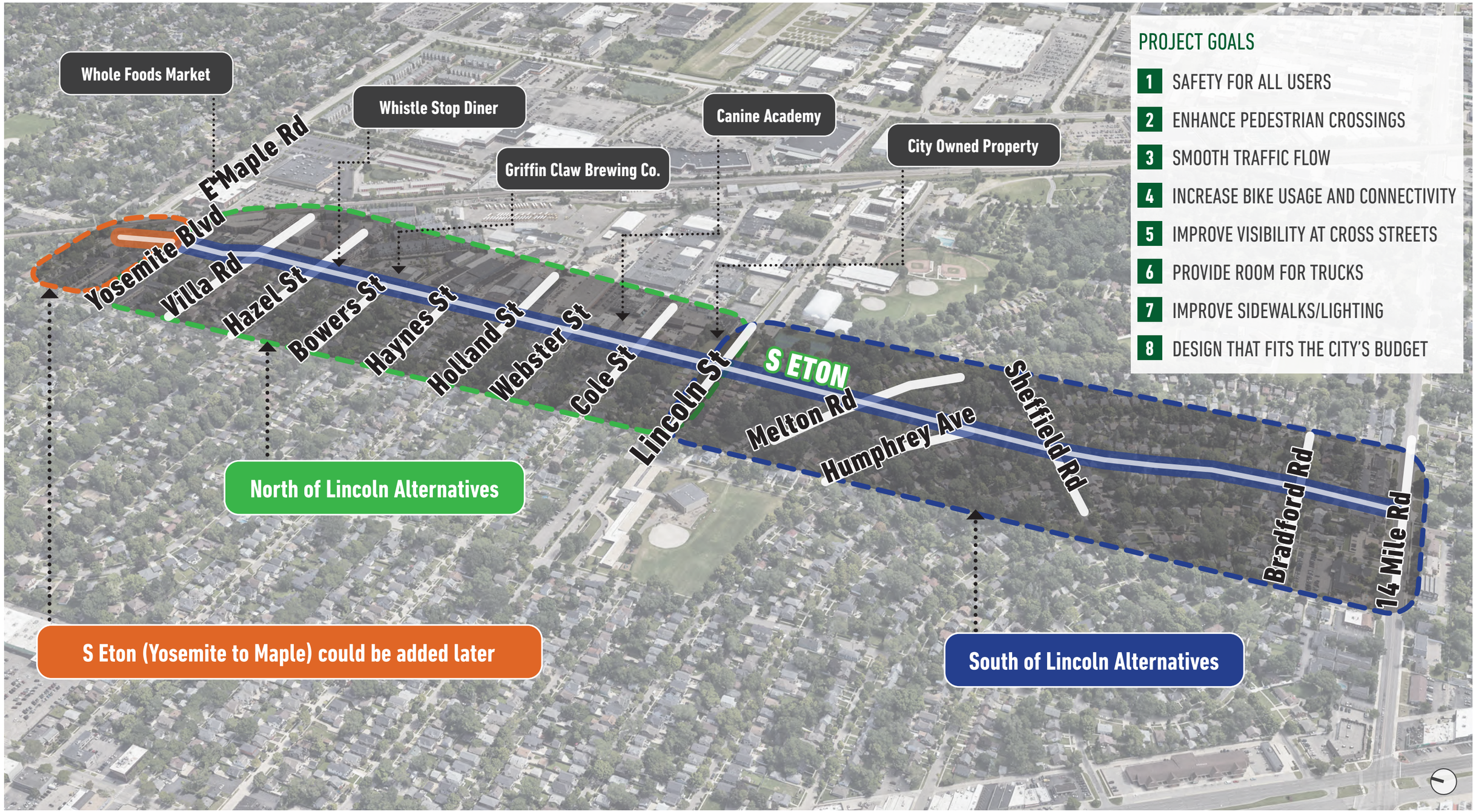
Move to recommend to the City Commission that S. Eton between Lincoln Ave and 14 Mile be designed as indicated in Concept _____ with the following amenities including:
1. _____
2. _____
3. _____

OR

Move to postpone the consideration of design alternatives for S. Eton from Yosemite to 14 Mile to June 1st, 2023 pending the receipt of further information from staff requested by the Multi-Modal Transportation Board.

S. ETON REDESIGN

PROJECT STUDY AREA



PROJECT GOALS

1. SAFETY FOR ALL USERS
2. ENHANCE PEDESTRIAN CROSSINGS
3. SMOOTH TRAFFIC FLOW
4. INCREASE BIKE USAGE AND CONNECTIVITY
5. IMPROVE VISIBILITY AT CROSS STREETS
6. PROVIDE ROOM FOR TRUCKS
7. IMPROVE SIDEWALKS/LIGHTING
8. DESIGN THAT FITS THE CITY'S BUDGET

PUBLIC WORKSHOP #2

HELD ON APRIL 18

Format:

- Reviewed background information
- Explained goals and priorities of the project
- Reviewed sight distance and on-street parking
- Reviewed the new alternatives
- Facilitated discussion
- Participants provided input on alternatives, buffer options, etc.

Comments varied among:

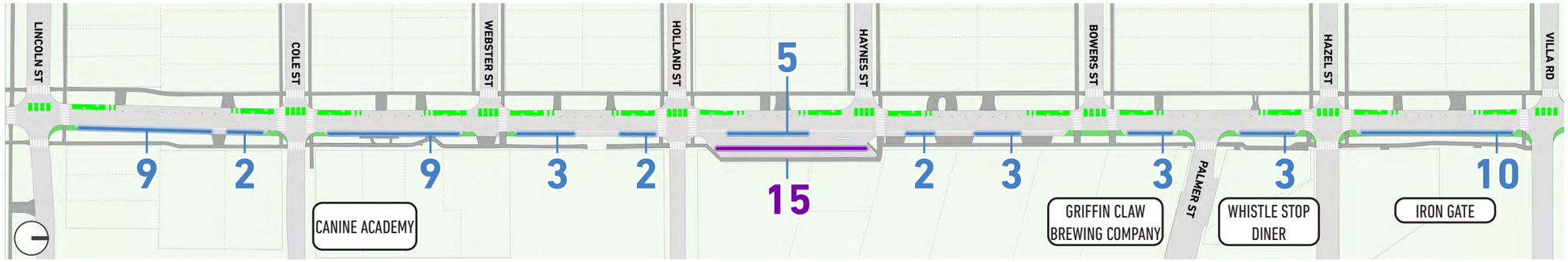
- Residents along S Eton
- People in neighborhood
- Businesses along S Eton
- Bicyclists

ON-STREET PARKING ALONG S ETON

EXISTING ON-STREET PARKING (2023)

20ft = 1 space
*City standard for requesting on-street parking

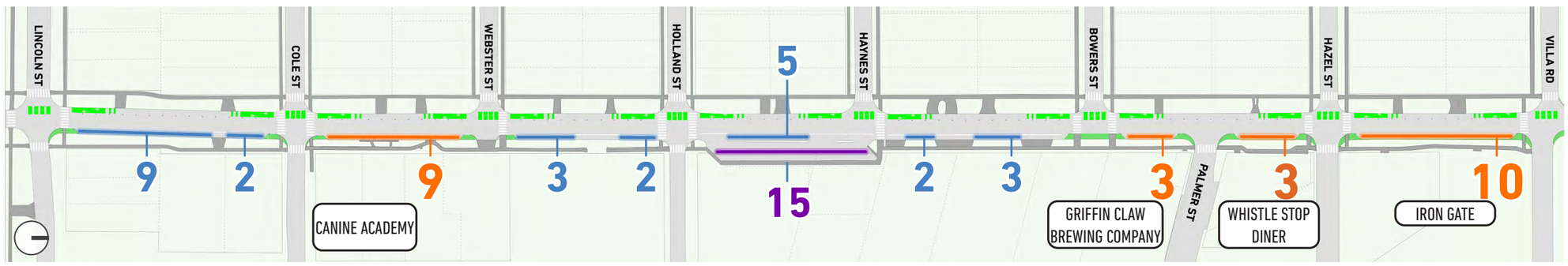
ON-STREET PARKING
PUBLIC OFF-STREET SPACES



TOTAL EXISTING ON-STREET PARKING SPOTS: **51**

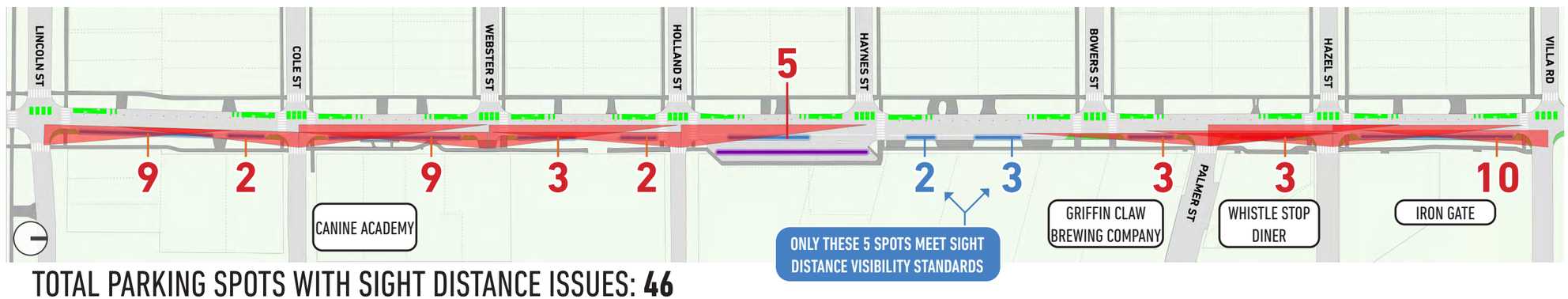
FREQUENTLY USED ON-STREET PARKING SPACES

FREQUENTLY USED SPACES



TOTAL FREQUENTLY USED SPACES: **25 (50%)**

EXISTING SIGHT DISTANCE ISSUES - ILLUSTRATES WHERE SIGHT DISTANCE STANDARDS NOT MET



TOTAL PARKING SPOTS WITH SIGHT DISTANCE ISSUES: **46**

SUMMARY OF FEEDBACK FROM APRIL 18TH PUBLIC WORKSHOP

COMMENT CARDS (19 TOTAL RESPONSES) - WHAT WE HEARD

- **Option C3 (One-Way On-Street Bike Lanes) was preferred, more than the others combined**
- **Support removing on-street parking to improve sight distance**
- **Prefer one-way bike lanes**
- **Don't move curbs back**
- **Support the drainage improvement**

Other Comments:

- Make it easier and safer to cross S Eton
- Slow traffic
- On-street parking is critical to some businesses
- Can more parking be added to the cross streets
- Some support some type of bike lane, others oppose
- Raise the intersections to ease walking, reduce speeds
- Oppose bike lanes south of Lincoln if trees will be lost

WRITTEN COMMENTS:

North of Lincoln:

Option C3 = 12 likes, 1 dislike

Option B3 = 7 likes, 1 okay, 1 dislike

Option B2 = 2 likes, 2 dislikes

Option B1 = 1 dislike

South of Lincoln:

Option B1 = 7 likes, 1 okay, 1 dislike

Option C1 = 4 like

Write-In "Neither" = 6 votes

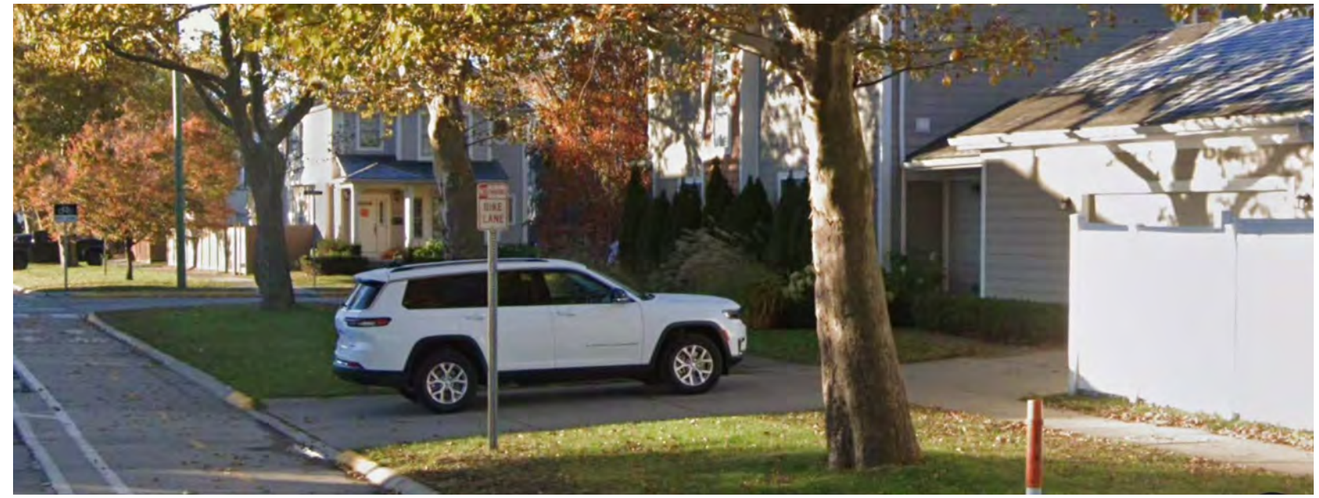
OPTIONAL NEW PARKING

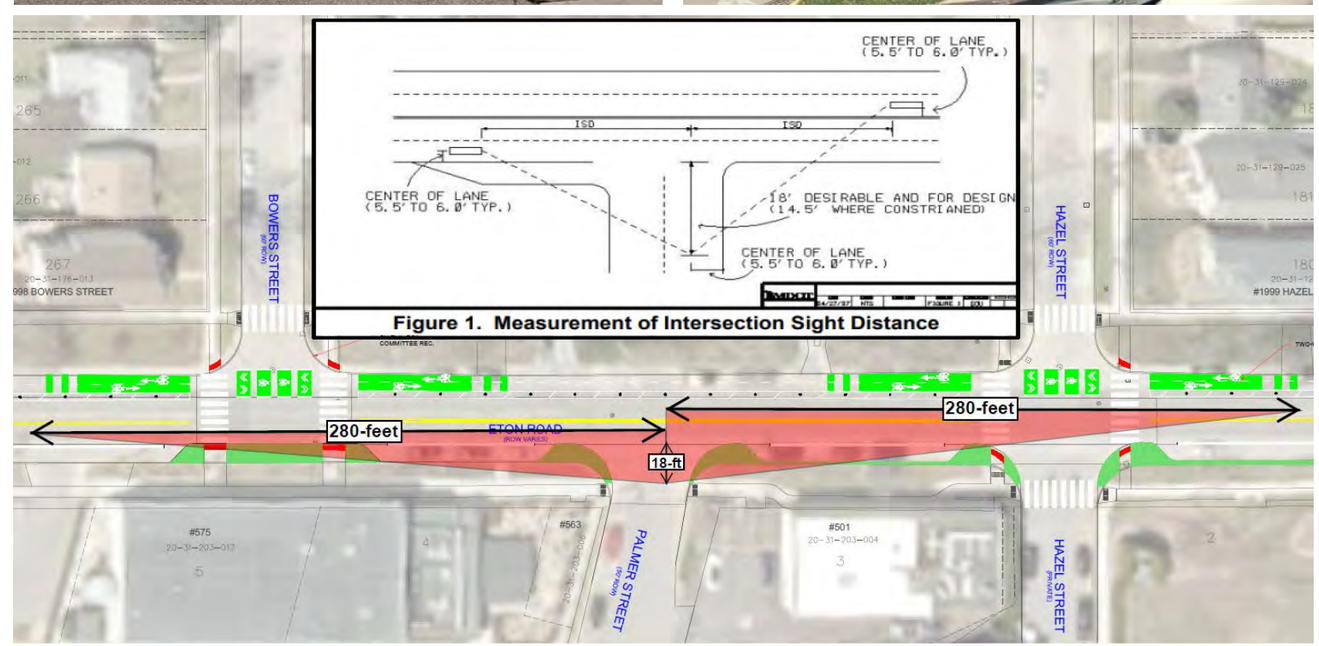
Parks and Recreation Board and the public opposed to converting city greenspace for additional off-street parking

COMMENTS ON THE ALTERNATIVES

General Comments:

- Improving pedestrian crossings was the most important goal
- Sight distance needs to be improved
- Raised bike lanes could increase use compared to on-street bike lanes
- Homeowners want adequate space to park their vehicles between sidewalk and the curb
- Some concern with removal of all the on-street parking

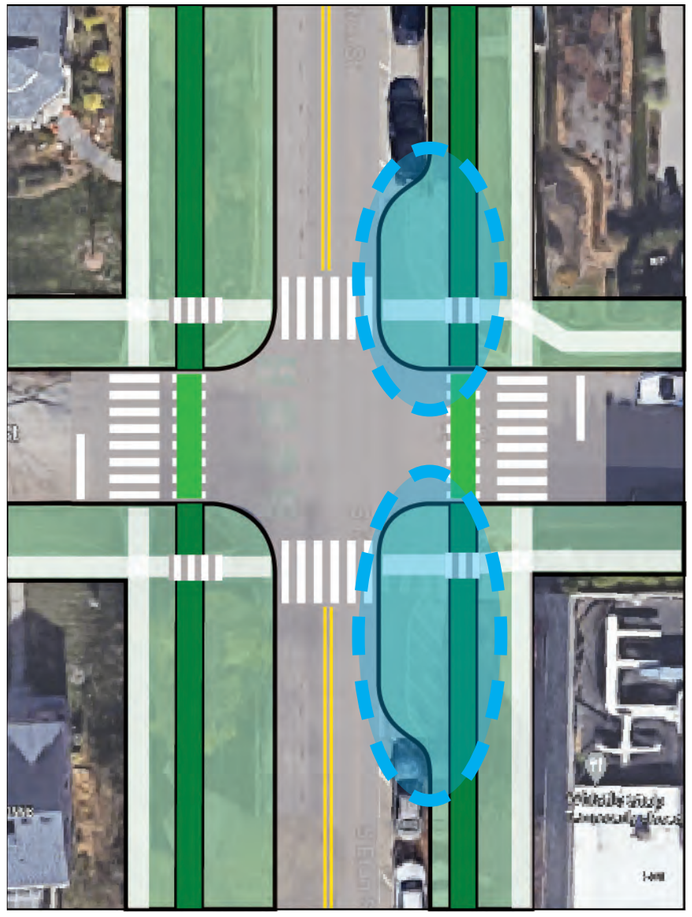




DEEPER REVIEW OF PEDESTRIAN ENHANCEMENTS

Bump-Outs to reduce Crossing Distance

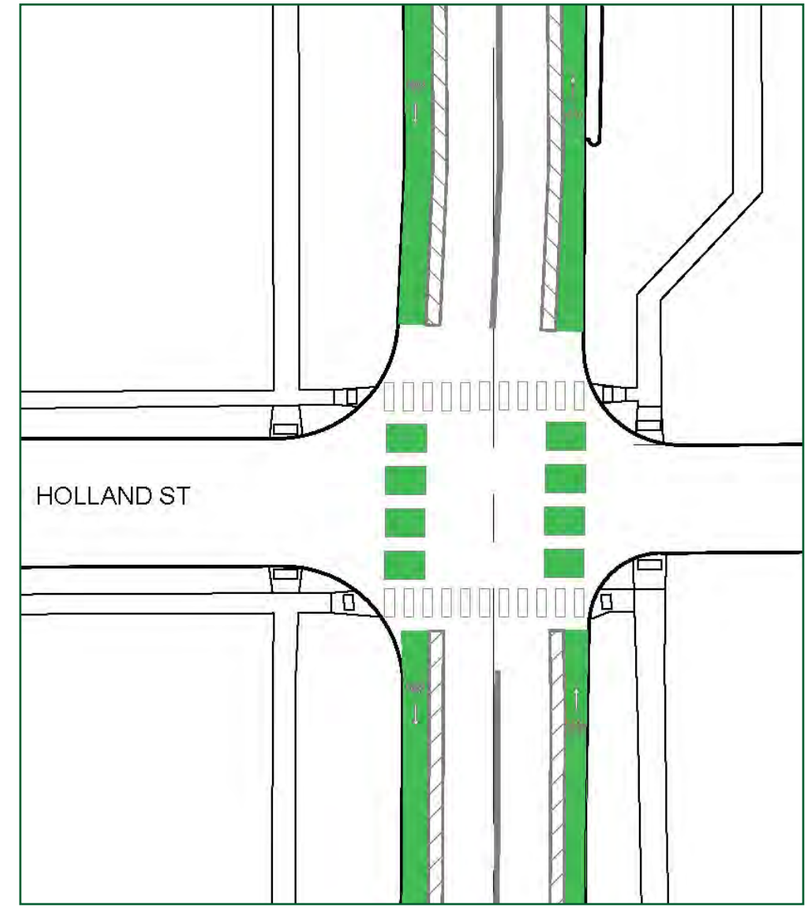
North of Lincoln



South of Lincoln

Replace the existing painted bump outs and bollards with curbed built-in bump outs

In-Street Bike Lanes - No Room for Bumpouts

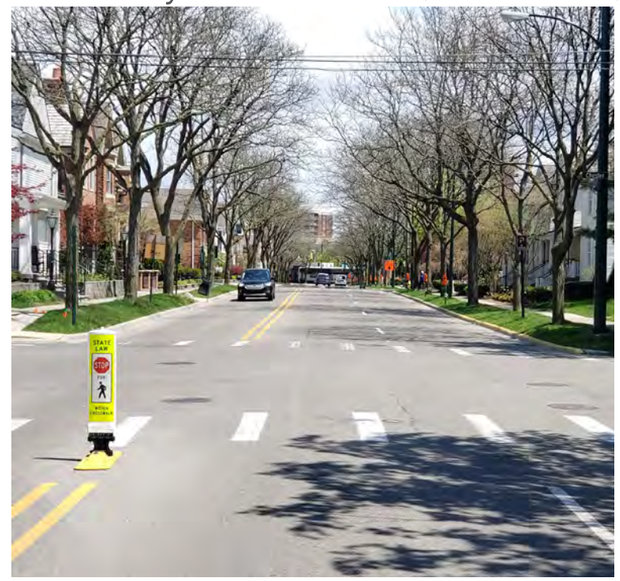


No space with bike lane and buffer

PEDESTRIAN ENHANCEMENTS

- Enhanced high visibility crosswalks
- Gateways and signs
- Amenities to alert drivers (signs, flashing beacons, etc.)
- Bump-outs to reduce crossing distance (not applicable if on-street bike lanes are selected)

Gateway Treatment (Brown St)



Bump-Outs

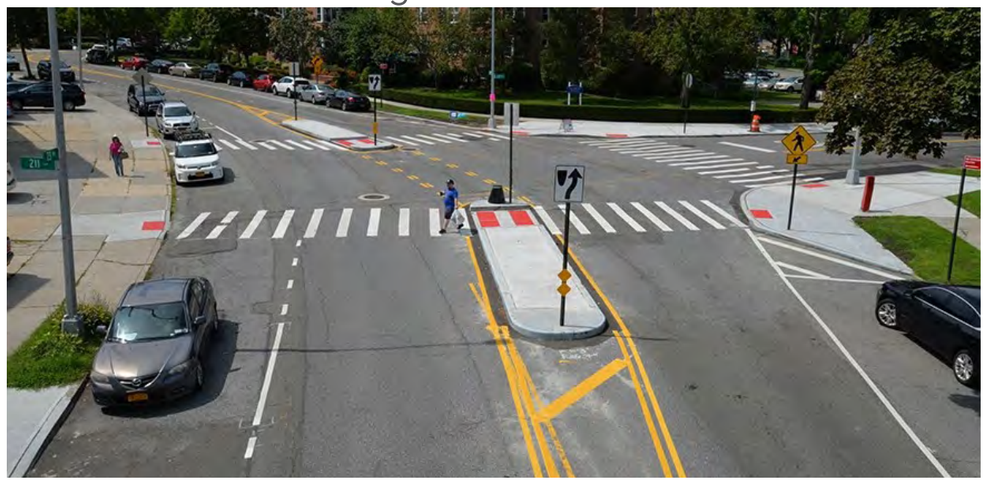
Pedestrian Signs and Islands

RRFB's

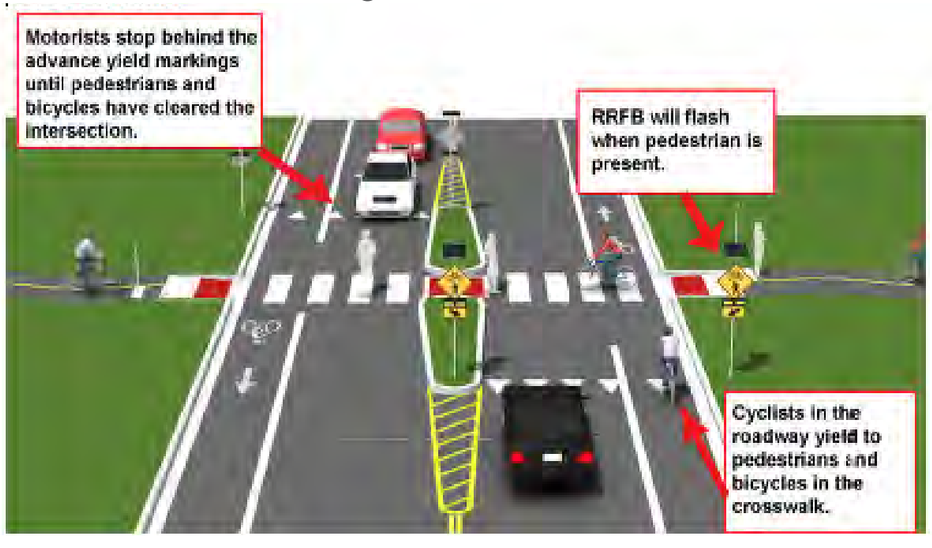
DEEPER REVIEW OF PEDESTRIAN ENHANCEMENTS

- Enhance high visibility crosswalks
- Amenities to alert drivers (signs, flashing beacons)

Pedestrian Crossing Islands



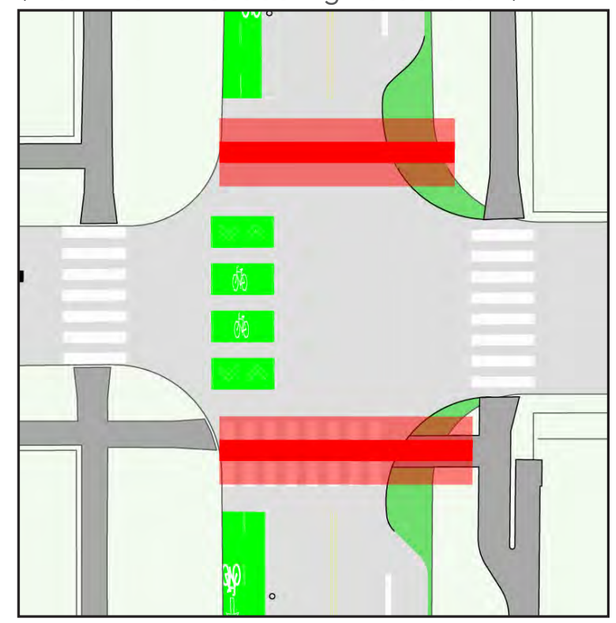
Pedestrian Crossing Islands w/ RRFB's



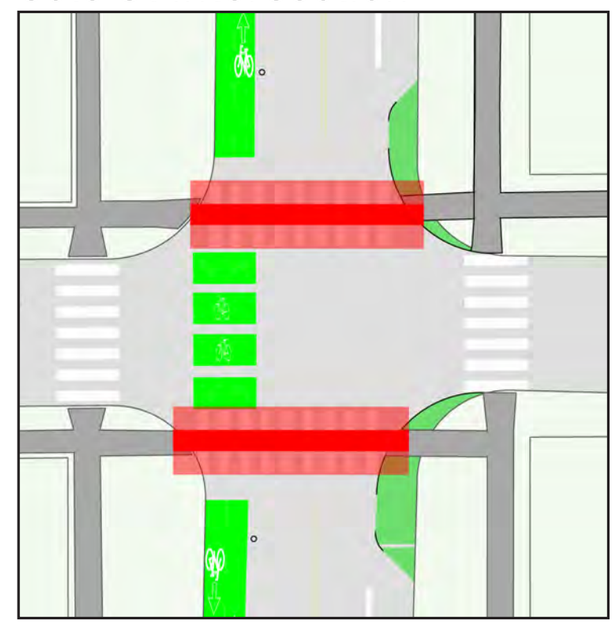
Potential Pedestrian Crossing Location

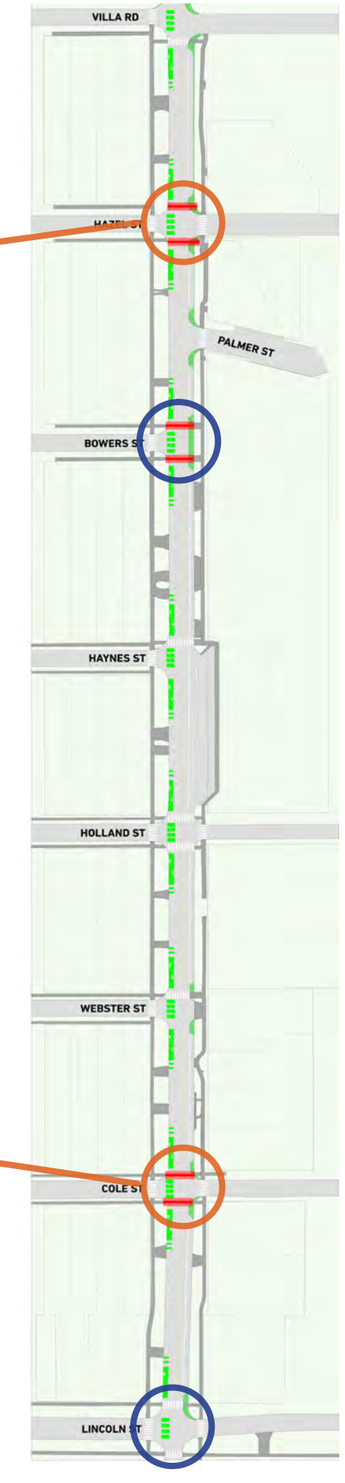
Potential High Visibility Crossing Location

Hazel St Intersection
(New north crossing to be built)



Cole St Intersection

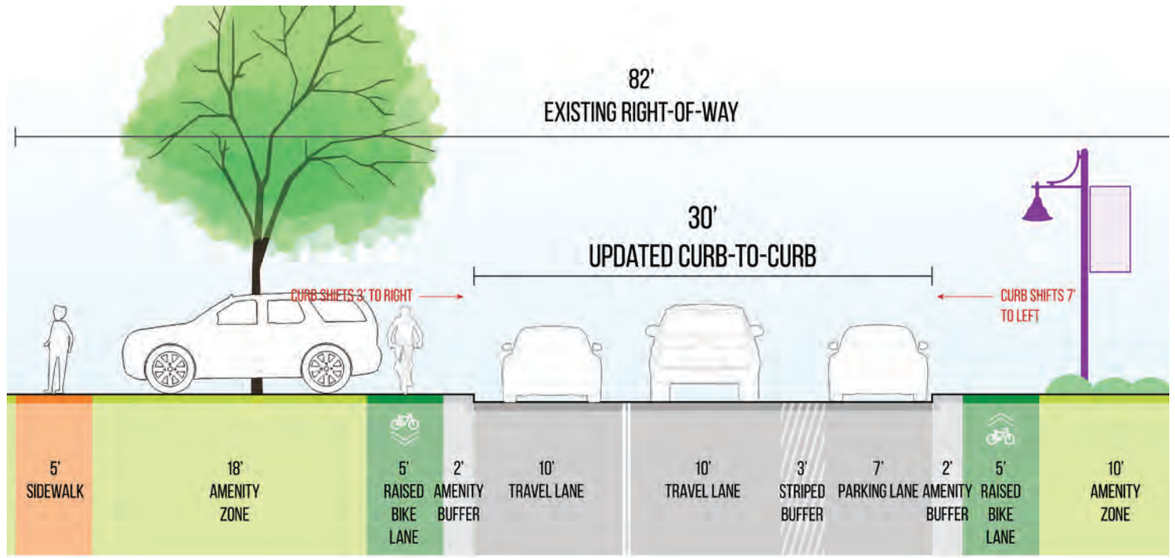




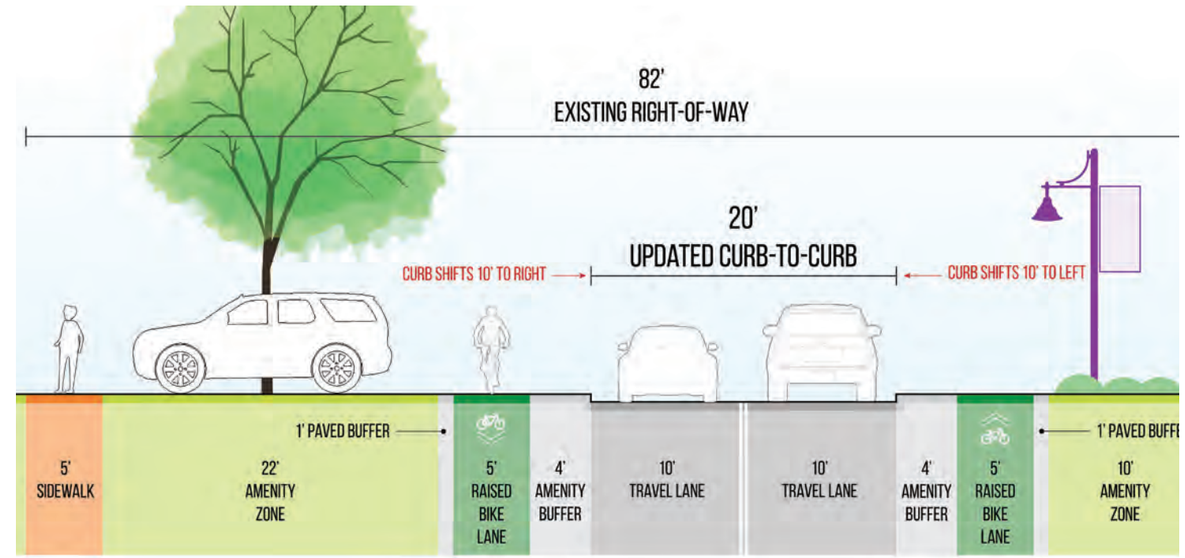
REFINED CONCEPTS

CONCEPTS PRESENTED AT WORKSHOP – NORTH OF LINCOLN (LOOKING NORTH)

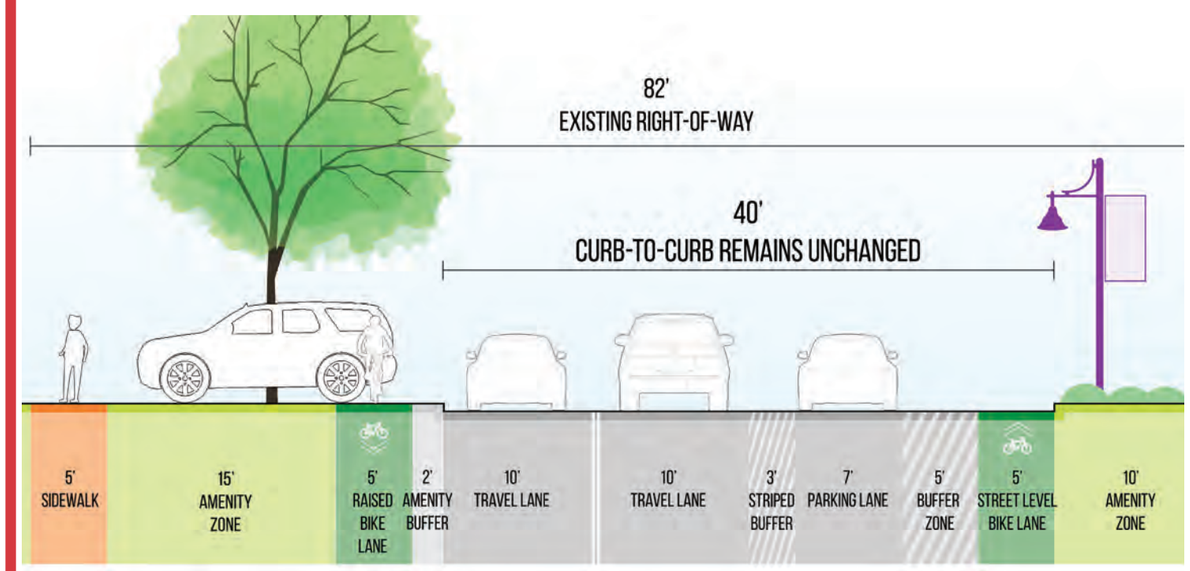
ALTERNATIVE B1 – RAISED BIKE LANES, BOTH CURBS MOVE



ALTERNATIVE B3 – RAISED BIKE LANES, BOTH CURBS MOVE

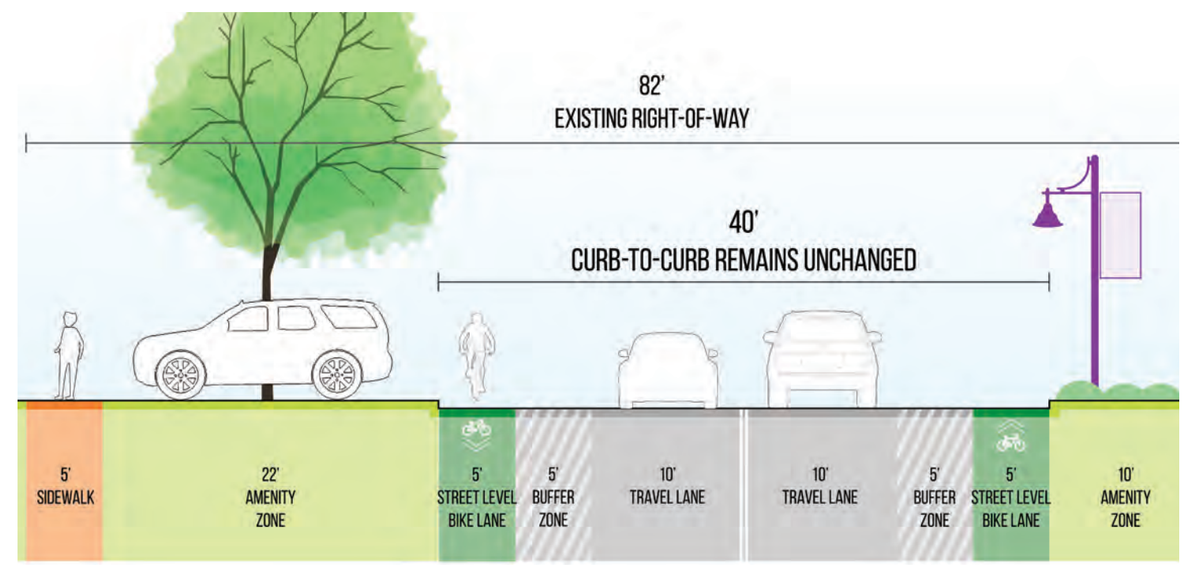


ALTERNATIVE B2 – RAISED BIKE LANE SB / STREET LEVEL BIKE LANE NB



ALTERNATIVE HAS BEEN UPDATED BASED ON PUBLIC FEEDBACK AND STAFF RECOMMENDATIONS

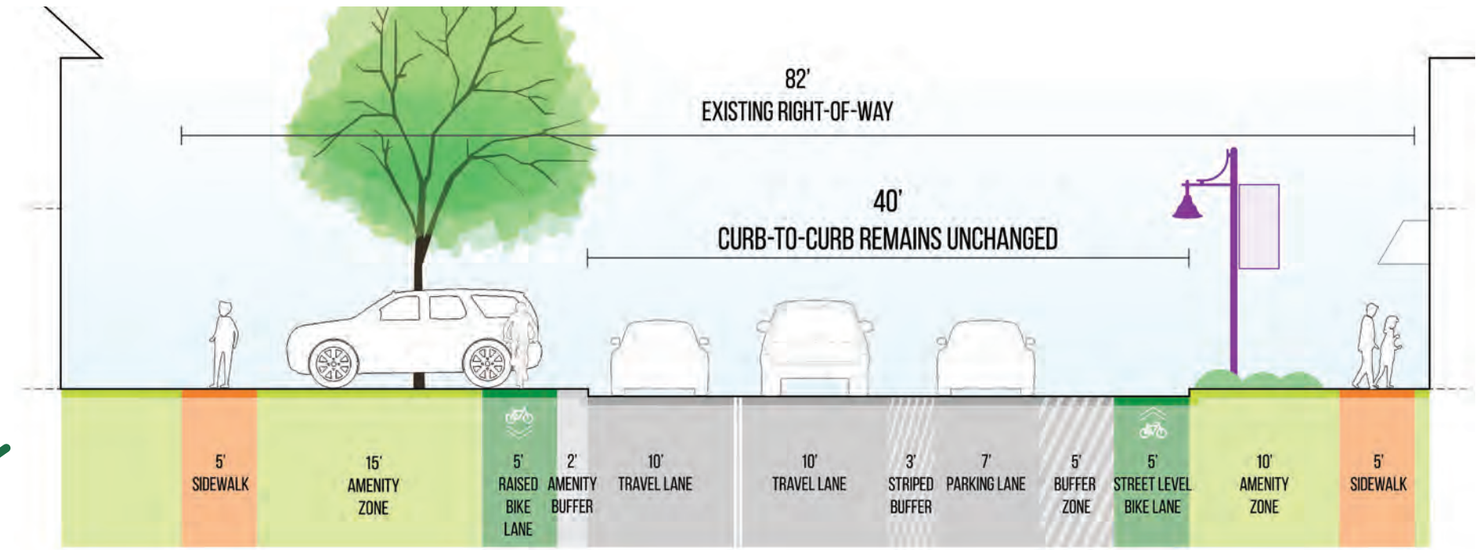
ALTERNATIVE C3 – STREET LEVEL BIKE LANES, NO CHANGE TO CURB



UPDATED CONCEPTS – NORTH OF LINCOLN (LOOKING NORTH)

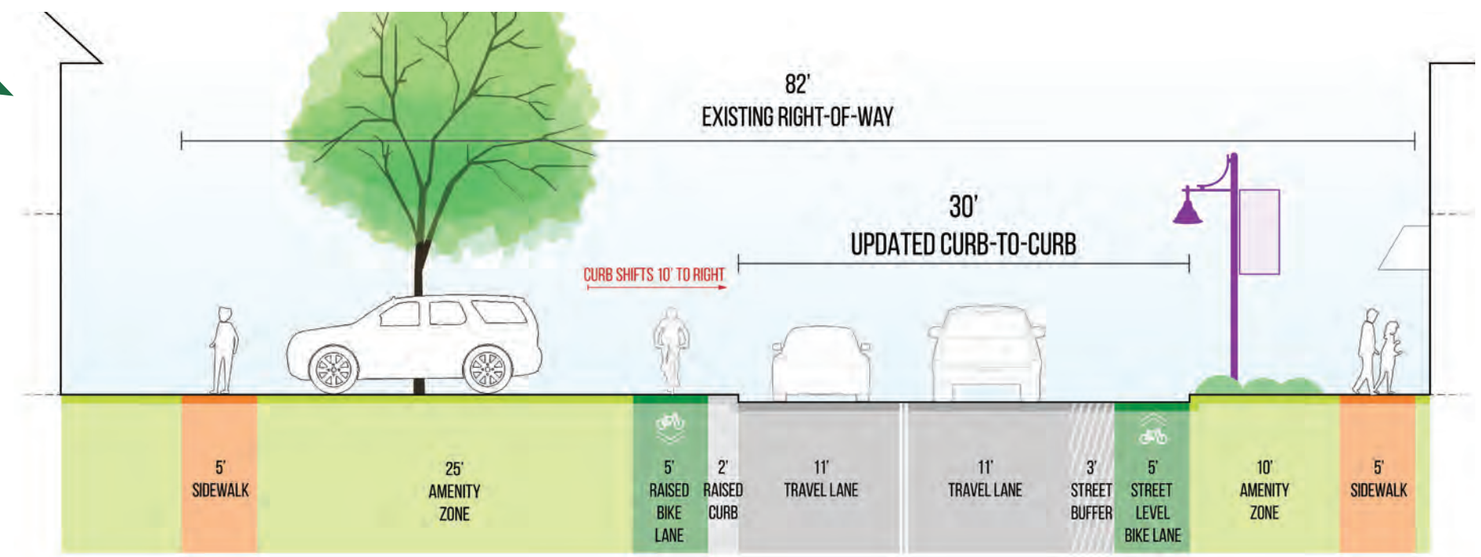
ALTERNATIVE B2 – RAISED BIKE LANE SB / STREET LEVEL BIKE LANE NB

ORIGINAL ALTERNATIVE B2



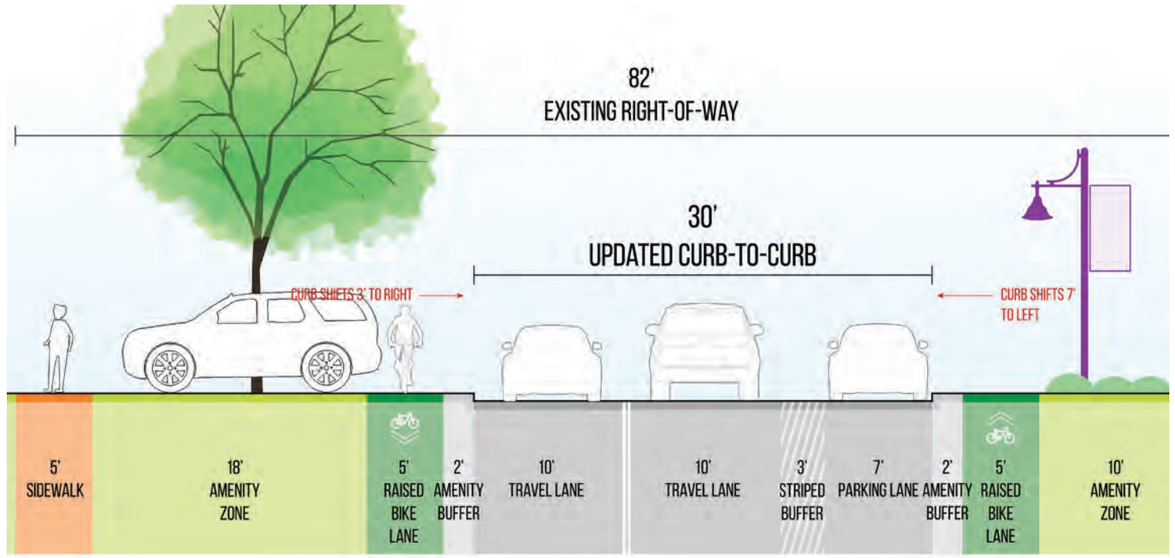
UPDATED ALTERNATIVE B2
• On-Street Parking on East Side Removed • 5' Street Level Bike Lanes NB w/ 3' Street Buffer • 5' Raised Bike Lane SB w/ 2' Raised Curb • Travel Lanes Widen from 10' to 11' • Moved Curb 10' to the Right (New 30' Curb-to-Curb) • Widen Amenity Zone on West Side

UPDATED ALTERNATIVE B2

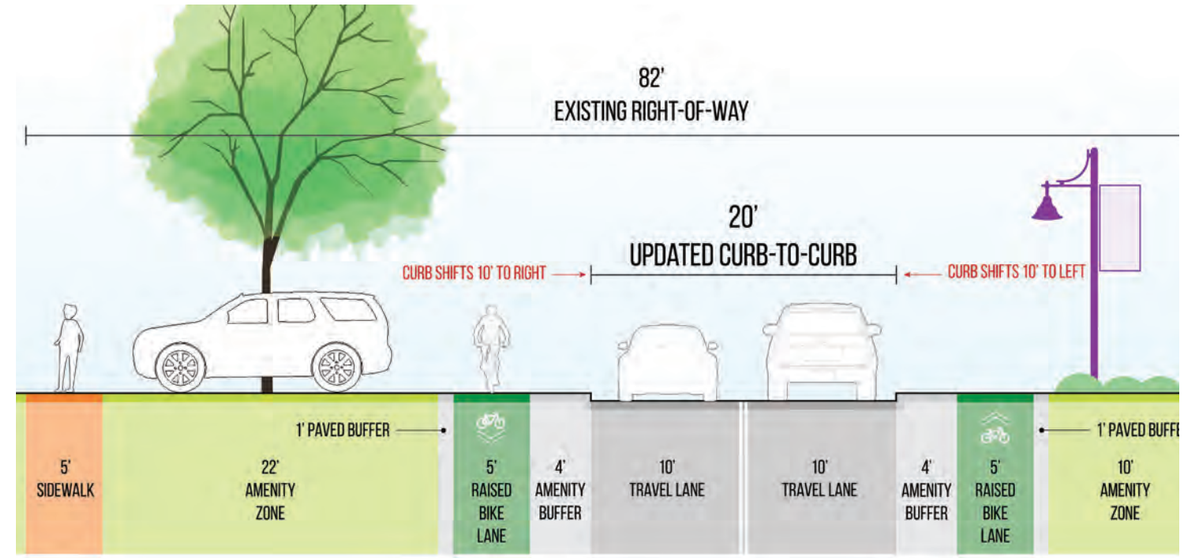


UPDATED ALTERNATIVES – NORTH OF LINCOLN (LOOKING NORTH)

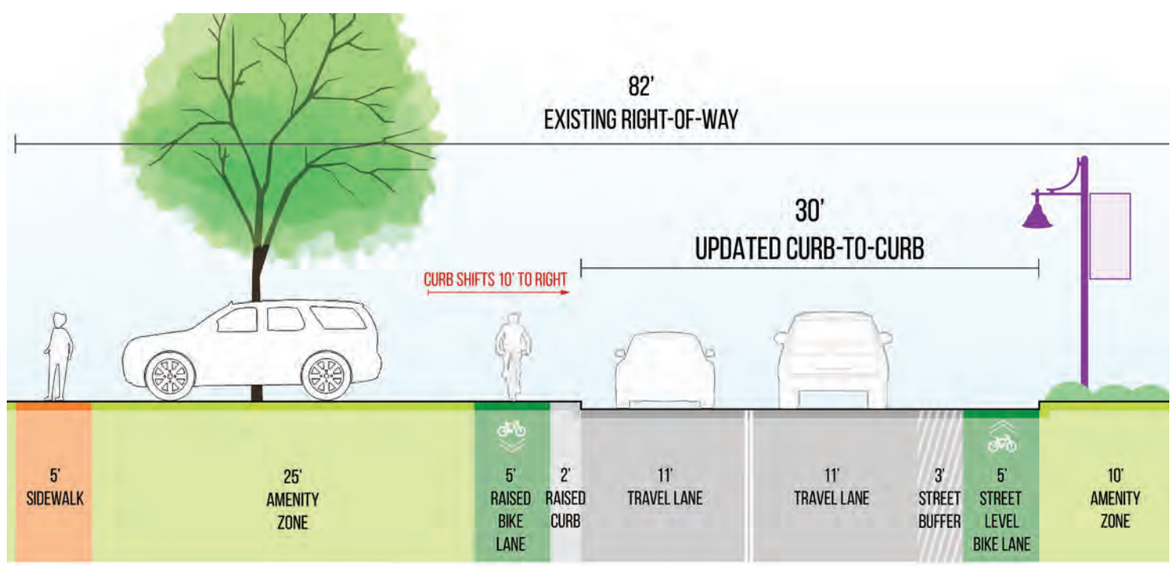
ALTERNATIVE B1 – RAISED BIKE LANES, BOTH CURBS MOVE



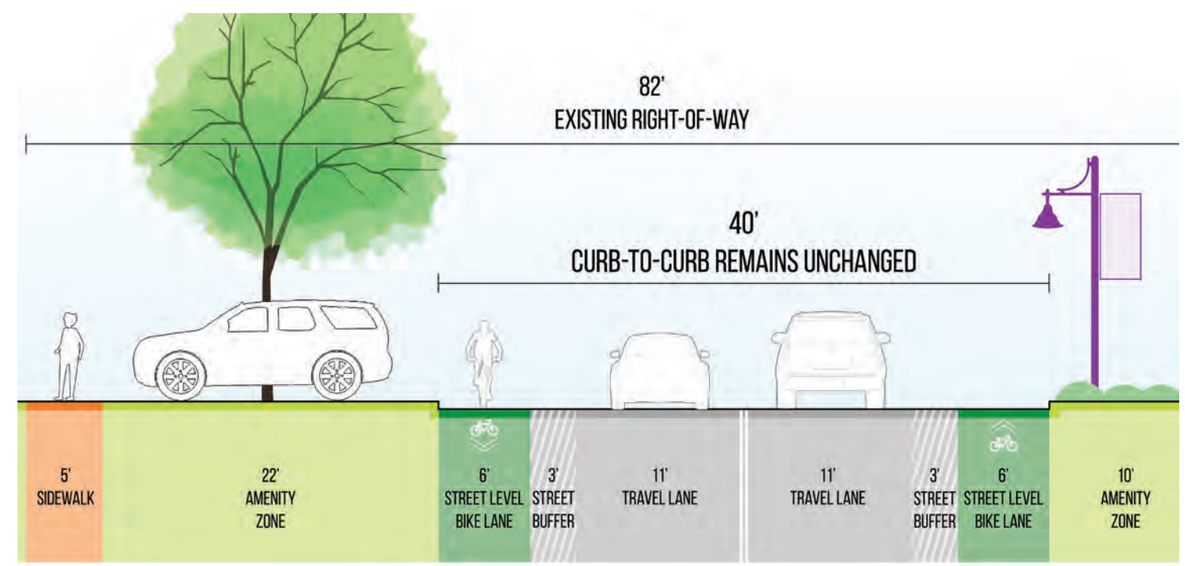
ALTERNATIVE B3 – RAISED BIKE LANES, BOTH CURBS MOVE



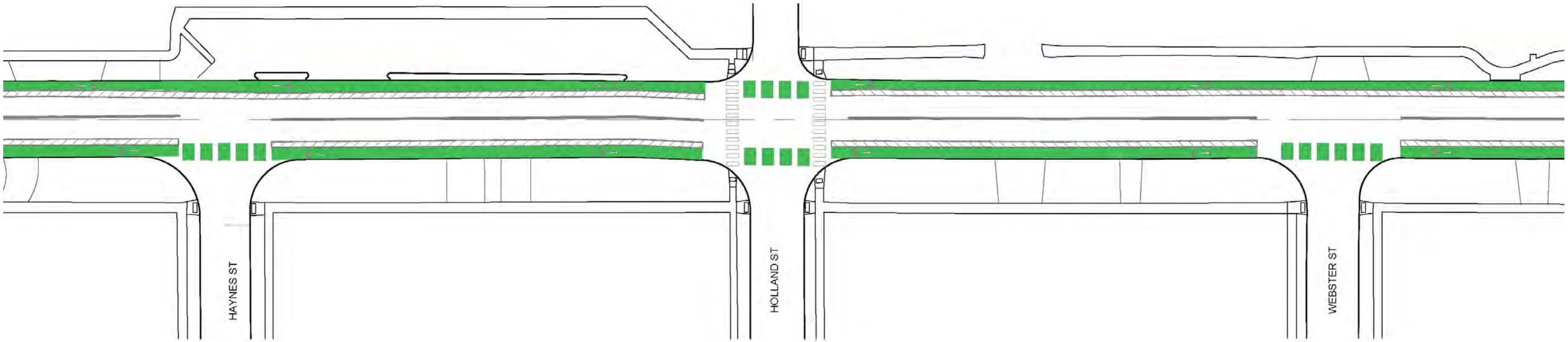
ALTERNATIVE B2 – RAISED BIKE LANE SB / STREET LEVEL BIKE LANE NB



ALTERNATIVE C3 – STREET LEVEL BIKE LANES, NO CHANGE TO CURB



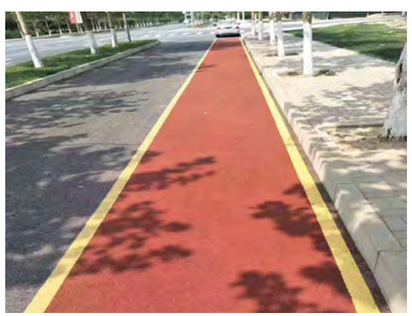
PLAN VIEW OF STREET LEVEL BIKE LANES (ALT C3)



ON-STREET BUFFER OPTIONS

City Staff prefers no raised separation

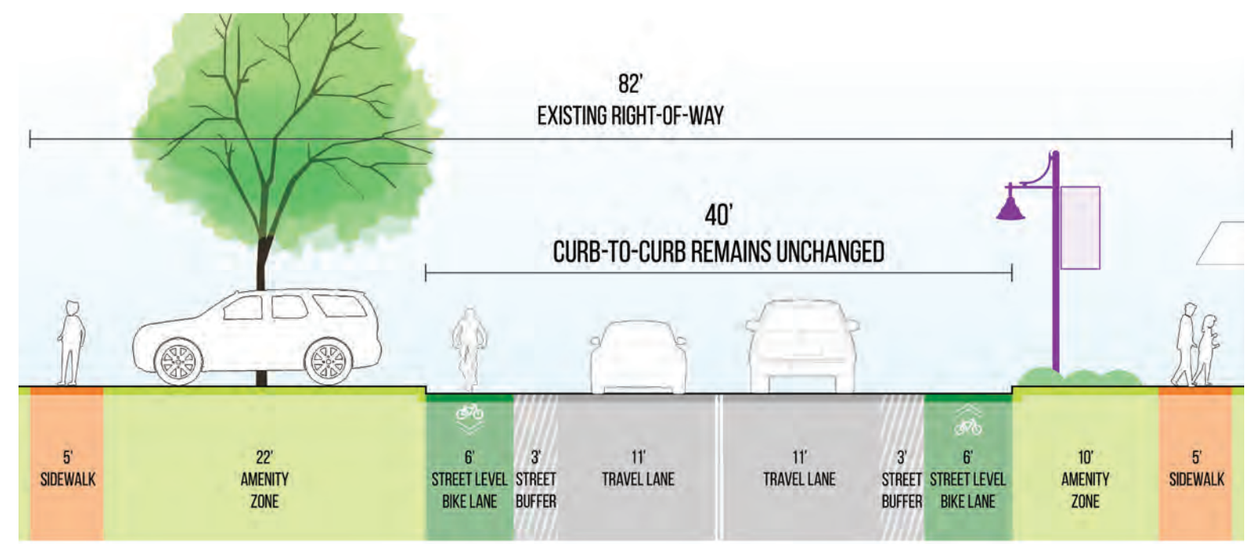
Rumble Strips



Painted Concrete

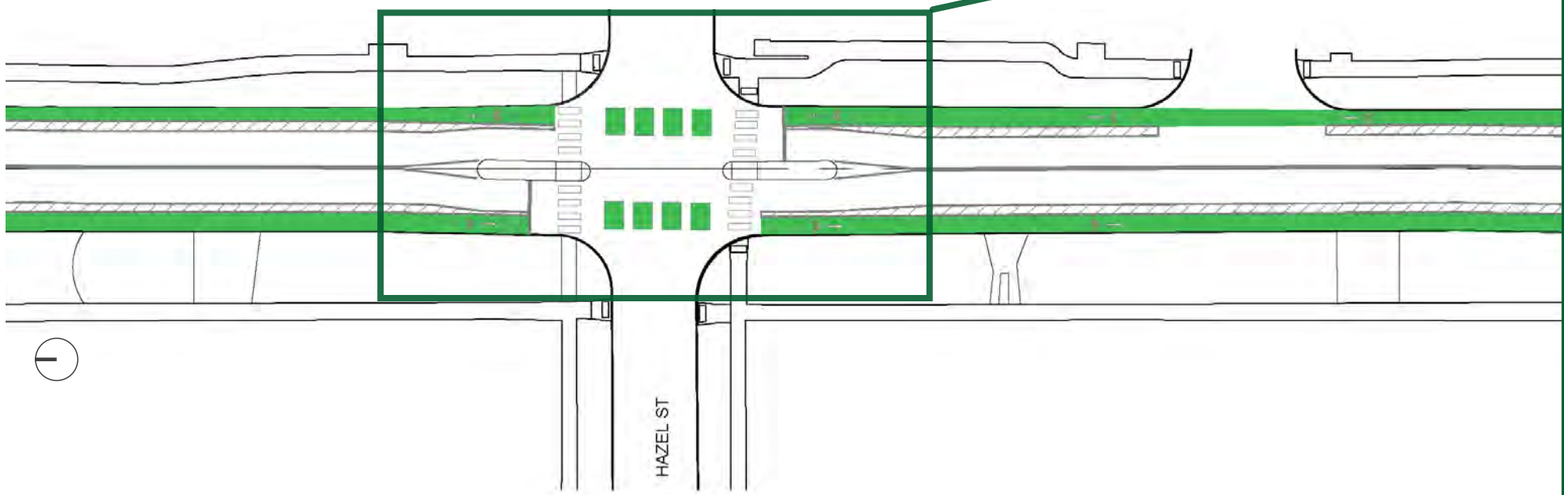
Striped Buffer

ALT C3 CROSS SECTION (LOOKING NB)

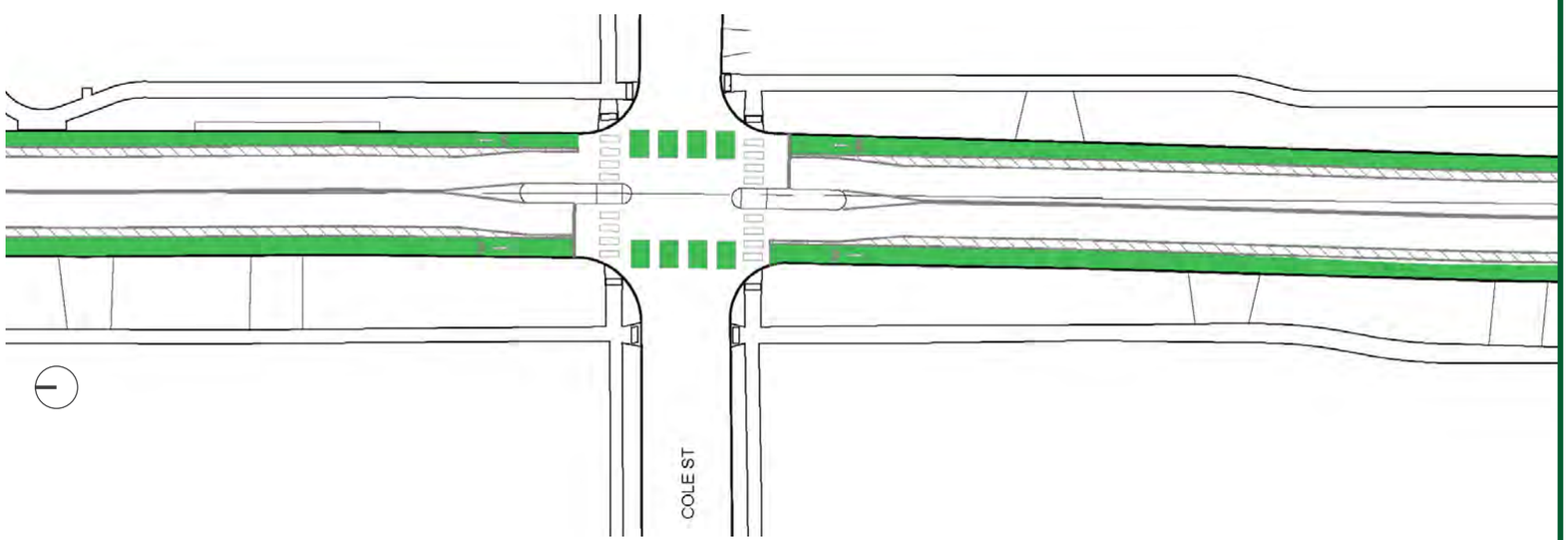


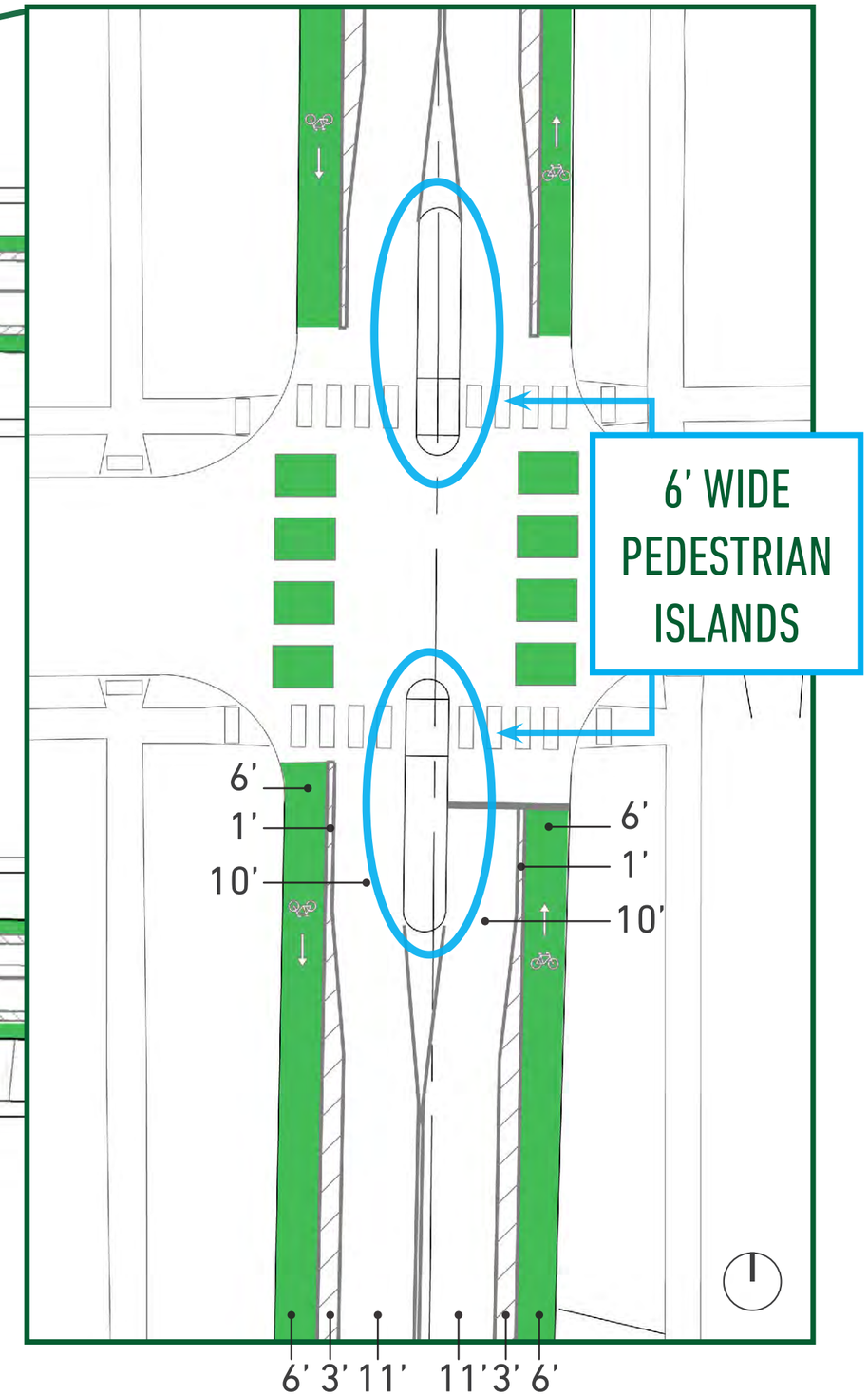
PROPOSED PEDESTRIAN ISLANDS

HAZEL ST INTERSECTION



COLE ST INTERSECTION



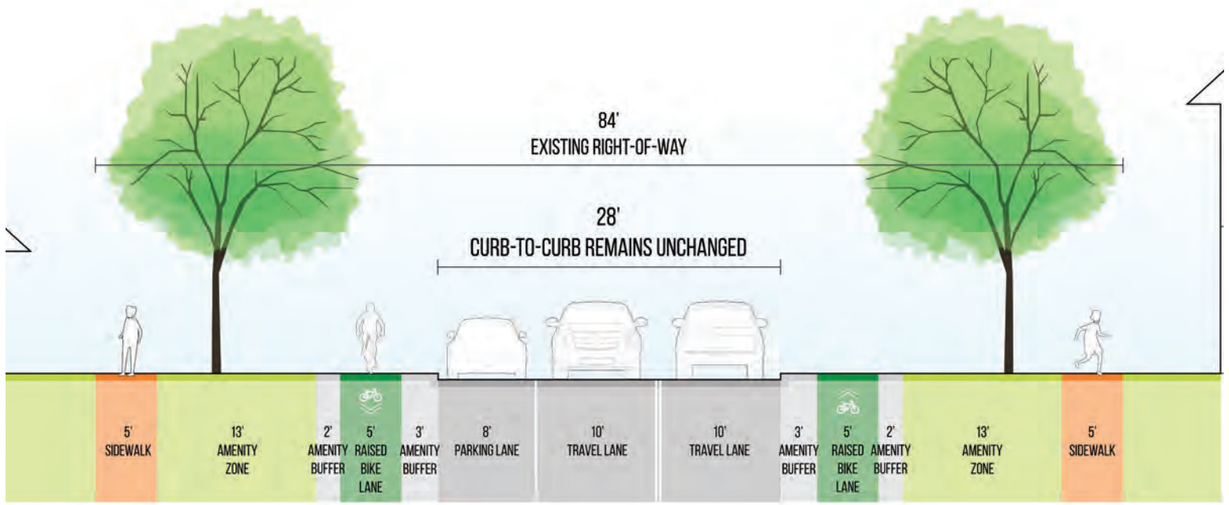


REFINED CONCEPTS

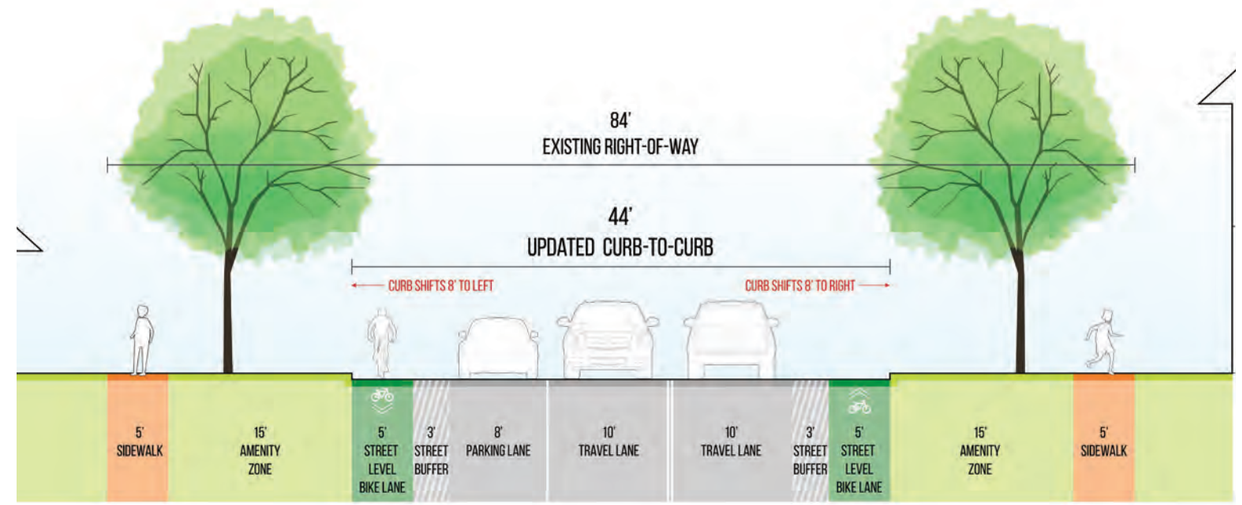
S. ETON - SOUTH OF LINCOLN MAP

REFINED CONCEPTS – SOUTH OF LINCOLN (LOOKING NORTH)

ALT B1 – RAISED BIKE LANES, NO CHANGE TO CURB



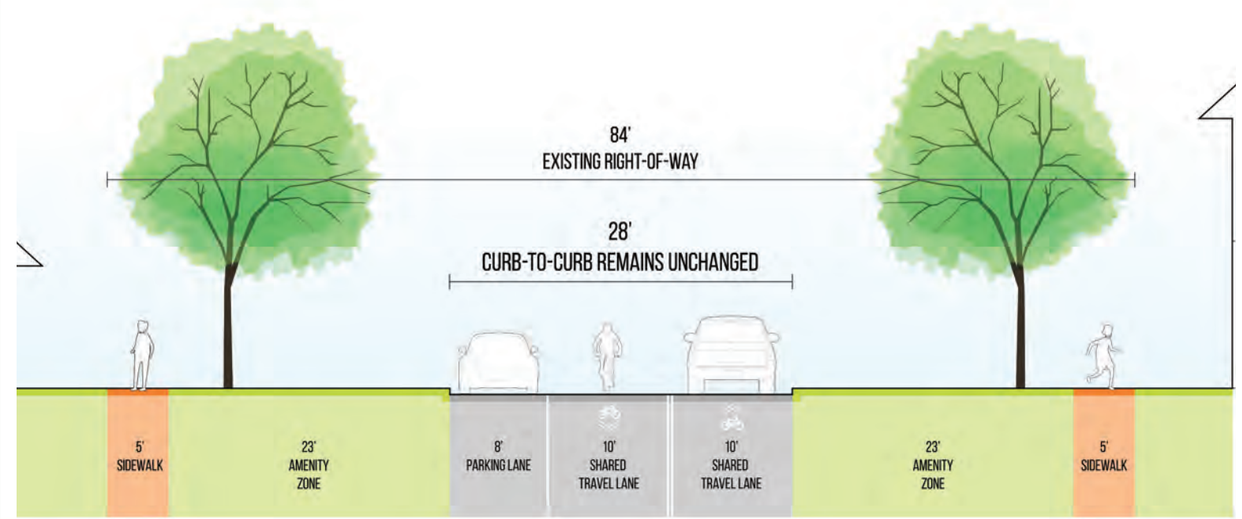
ALT C1 – STREET LEVEL BIKE LANES, BOTH CURBS MOVE



Existing painted bumpouts and bollards

Example sharrow signage

NEW ALT A1 – NO CHANGE/KEEP AS IS



- **Add more sharrow markings + signs**
- **Fill in painted bump-outs**

PROJECT SCHEDULE

2023 SCHEDULE

PUBLIC WORKSHOP #1

#1 - JANUARY

- Project introduction
- Present preliminary design alternatives
- Gather public input, identify ideas and concerns

MMTB BOARD REVIEW

#2 - WINTER/SPRING

- Multi-Modal Transportation Board (MMTB) to review alternatives
- Refine the alternatives per input and research

PUBLIC WORKSHOP #2

#3 - APRIL/MAY

- Present the refined alternatives
- Public Workshop #2
- Summary of Workshop Input
- Focus Groups or Individual Discussions
- Multi-Modal Transportation Board meeting May 4

CITY COMMISSION REVIEW

#4 - LATE SPRING/EARLY SUMMER

- City Commission to review design plans
- Comments and possible approval
- Begin design of engineering plans

2024 SCHEDULE

FINAL ENGINEERING

#5 - LATE SPRING

- Meeting with individual property owners
- Final engineering plans

PUBLIC WORKSHOP #3

- Engineering plans are presented

PROJECT CONSTRUCTION 2024

#6 - SUMMER/FALL

- Construction begins
- On going communication with property owners

City of Birmingham
A Walkable Community

BIRMINGHAM CITY COMMISSION
REGULAR MEETING, JULY 11, 2011
RESOLUTION # 07-185-11

Present: Commissioners Dilgard, Hoff, McDaniel, Moore, Nickita, and Sherman
Absent: Mayor Rinschler

MOTION: Motion by Hoff, seconded by Dilgard:
To formally support the Complete Streets principles in the City of Birmingham:

WHEREAS, Complete Streets are defined as a design framework that enables safe and convenient access for all users, including pedestrians, bicyclists, transit riders, and drivers of all ages and abilities: and

WHEREAS, the Michigan Legislature adopted Public Acts 134 and 135 of 2010 to enact Complete Streets legislation that requires the Michigan Department of Transportation to consider all users in transportation related projects; and

WHEREAS, Complete Streets are achieved when transportation agencies routinely plan, design, construct, re-construct, operate, and maintain the transportation network to improve travel conditions for bicyclists, pedestrians, transit, and freight in a manner consistent with, and supportive of, the surrounding community; and

WHEREAS, development of multi-modal transportation infrastructure, including accommodations for pedestrian, bicycle, and transit riders, offers long-term cost savings by reducing costly infrastructure retrofits and opportunities to create safe and convenient non-motorized travel; and

WHEREAS, streets that support and invite multiple uses, including safe, active, and ample space for pedestrians, bicycles, and transit are more conducive to the public life and efficient movement of people than streets designed primarily to move automobiles; and

WHEREAS, increasing active transportation (e.g. walking, bicycling and using public transportation) offers the potential for improved public health, economic development, a cleaner environment, reduced transportation costs, enhanced community connections, social equity, and more livable communities; and

WHEREAS, existing City of Birmingham plans and policies already support principles that facilitate progress toward developing a network of Complete Streets consistent with the objectives of the Michigan Complete Streets legislation and with the practices promoted by the National Complete Streets Coalition; and

WHEREAS, Complete Streets principles have been and continue to be adopted nation-wide at state, county, MPO, and city levels in the interest of proactive planning and adherence to federal directives that guide transportation planning organizations to promote multi-modal transportation options and accessibility for all users; and

WHEREAS, the adoption of this Complete Streets Proclamation allows the City of Birmingham to remain competitive in the pursuit of future state transportation project funding.

NOW, THEREFORE, BE IT RESOLVED, that the City of Birmingham City Commission hereby declares its support of Complete Streets policies and further directs City staff to develop a set of proposed policies and procedures to implement Complete Streets practices to make the City more accommodating to all modes of travel, including walkers, bicyclists and transit riders, of all ages and abilities.

VOTE: Yeas, 6
Nays, None
Absent, 1 (Rinschler)

I, Laura M. Pierce, City Clerk of the City of Birmingham, do hereby certify that the above is a true and correct copy of a resolution adopted by the Birmingham City Commission at their regular meeting of July 11, 2011.

Laura M Pierce

Laura M. Pierce
City Clerk

Commercial and industrial uses predominate the eastern frontage which also includes neighborhood commercial uses. There is a continuous sidewalk along the western side of Eton Road that accommodates pedestrian access throughout the residential neighborhood and provides a connection to neighborhood businesses on the west side of the road. The east side of Eton Street consists of a discontinuous sidewalk system that is non-existent in some areas and interrupted by private parking within the ROW in other areas. A more pedestrian-friendly environment consisting of a unified sidewalk and streetscape system would enhance pedestrian circulation and provide improved access to neighborhood businesses on the east side of Eton Street.

Bicycle Circulation

A designated bike route runs along the west side of the corridor. This route is part of a regional bike path system that connects bike traffic from the west on Lincoln to Eton north of Maple. The addition of bike traffic within the Eton Road Corridor creates the potential for unsafe conditions and additional traffic conflicts. Eton Road lies within a ROW that ranges from 50 feet between Maple Road and Villa Road to 80 feet between Villa Road and Lincoln Drive. The current pavement width is 43 feet which accommodates two lanes of traffic with parking on both sides of the street. This dimension is sufficient to accommodate traffic safely and efficiently in this area provided that proper channelization and separation of vehicle, pedestrian, and bicycle traffic is provided.

The industrial and service uses that predominate the area are located on small sites with limited parking facilities. In many cases, property owners have paved their entire property and portions of the ROW to provide additional parking, detracting from the appearance of the area. On street parking and shared parking are heavily relied upon within the area.

In order to enhance the development potential of the sub-area, improved access to the property within the sub-area must be provided. Map 8 illustrates how this can be accomplished by developing one or two possible road configurations. The Eton Road Sub-Area Plan (Map 9) further illustrates how these connections can be made to connect the uses within the sub-area.

One road could intersect with Eton Road at Villa, south of the two existing Erb Lumber office buildings, run east and then southeast to intersect the eastern end of Cole. Holland and Cole should be improved and extended to intersect the proposed road. The proposed road would be parallel to the CN Railroad tracks and provide access to businesses as well as a buffer between the tracks and the businesses.

A second road configuration could be one that intersects Eton Road at Hazel Road. This road would also provide east/west access within the sub-area. In addition, it would provide access to a second north/ south road that provides access through the north half of the sub-area from Hazel to Holland. This road would also provide significant opportunities for development within the district.

Each of these internal road configurations would provide improved access to the property within the sub-area and would facilitate future development. These alternative layouts will also provide improved access and visibility to the Amtrak station which is currently only accessible through a series of private access easements. New roads should be developed according to the standards of the City's Engineering Department in conjunction with future development proposals as they are submitted for City approval.

Direct access to Eton Road should be limited on the east side of the street and access drives serving new development should align with existing roads. Residential driveways directly accessing Eton Road should also be eliminated, if possible, to reduce the potential for vehicular conflict caused by vehicles backing out onto Eton Road.

As stated earlier, Eton Road is an important link in a regional urban bike route system. The current pavement width is more than adequate to accommodate a designated bike lane. Bicycle lanes provide dedicated space and increase motorist's awareness that bicyclists are welcome and encouraged on roadways, reducing the potential for conflicts.

3.3 ROAD CROSSING IMPROVEMENTS

DESCRIPTION

Road crossing improvements are needed in areas where there is demand to cross by pedestrians and/or bicyclists. These areas occur where a bike route crosses a collector or arterial road, a major bus stop or bus shelter is present, there is a long distance between crosswalks, or there is a high demand based on land use and population density.

There are many different types of countermeasures that can be used to improve the safety and visibility of pedestrians at crosswalks. Traffic speeds, traffic volume, number of lanes and location of the crossing in context to the surrounding land use will dictate what type of crossing improvement is appropriate for a specific location. In some instances the improvements are as simple as adding high visibility crosswalk markings and in others signalization may be needed.

For the most up-to-date guidelines please refer to all Chapters of the *MUTCD* and Chapter 3 & 4 of AASHTO's *Guide for the Planning, Design and Operation of Pedestrian Facilities*.

RECOMMENDATIONS

The exact solution for every crossing has not been determined; rather, the location and recommended countermeasure has been identified. Please note that these are initial recommendations and that each crossing needs to be studied further prior to implementation. Please refer to the Network Implementation Plan for specific recommendations on near-term crossing improvements.

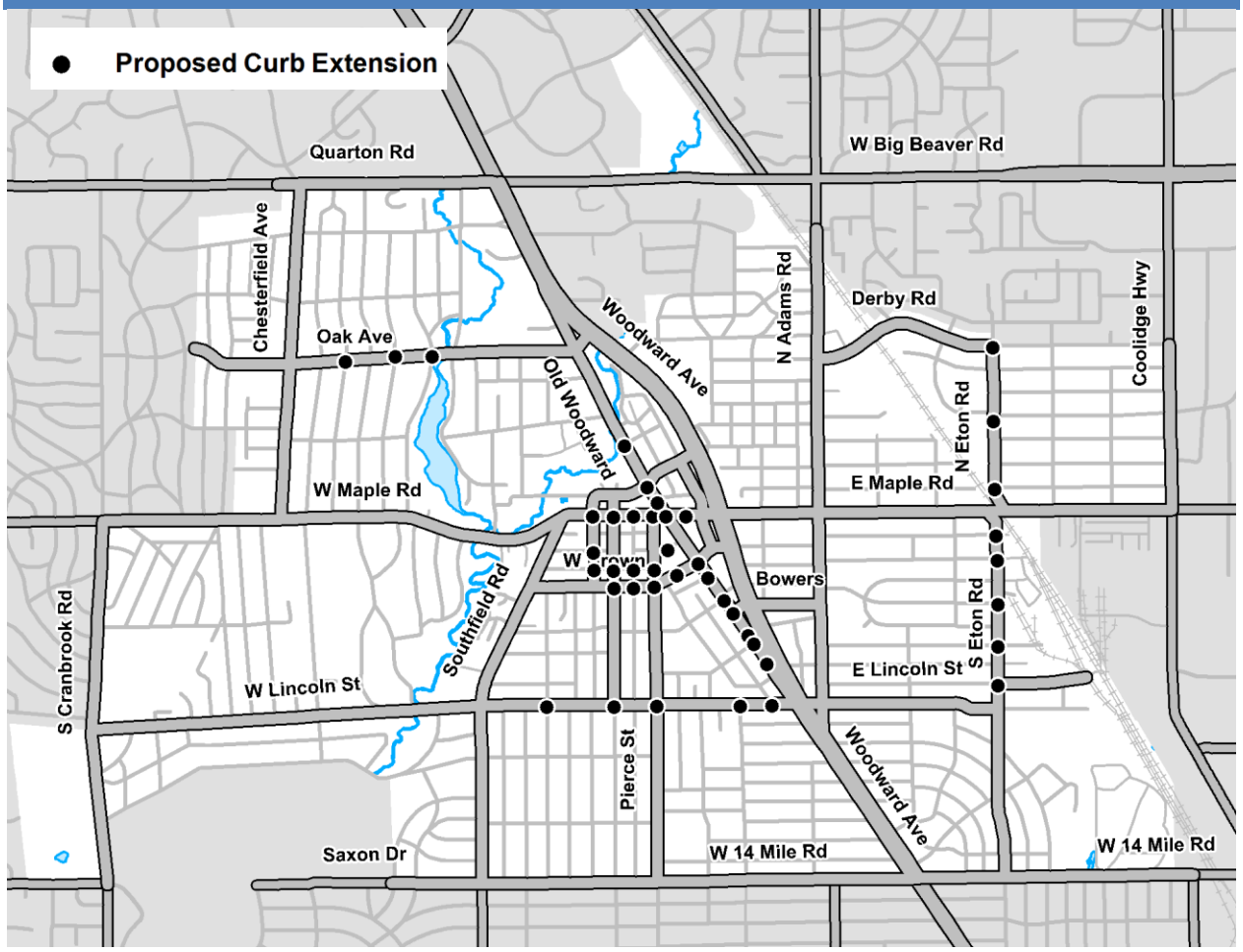
At signalized intersections it is recommended that leading pedestrian signals and signal countdowns be implemented.

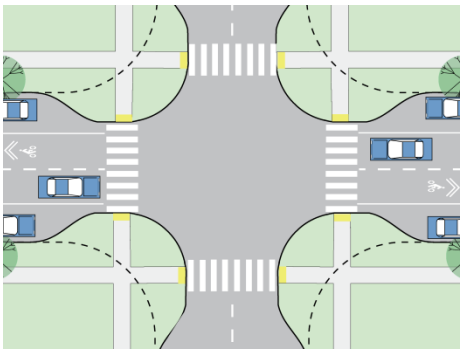
Please refer to Fig. 3.3A, 3.3B and 3.3C for maps of the proposed crossing improvements.

Web Survey Results:

- Around 61% of respondents feel that mid-block crosswalks are very important or somewhat important to making future walking and bicycling trips actually happen

FIGURE 3.3A CROSSING IMPROVEMENTS – CURB EXTENSIONS

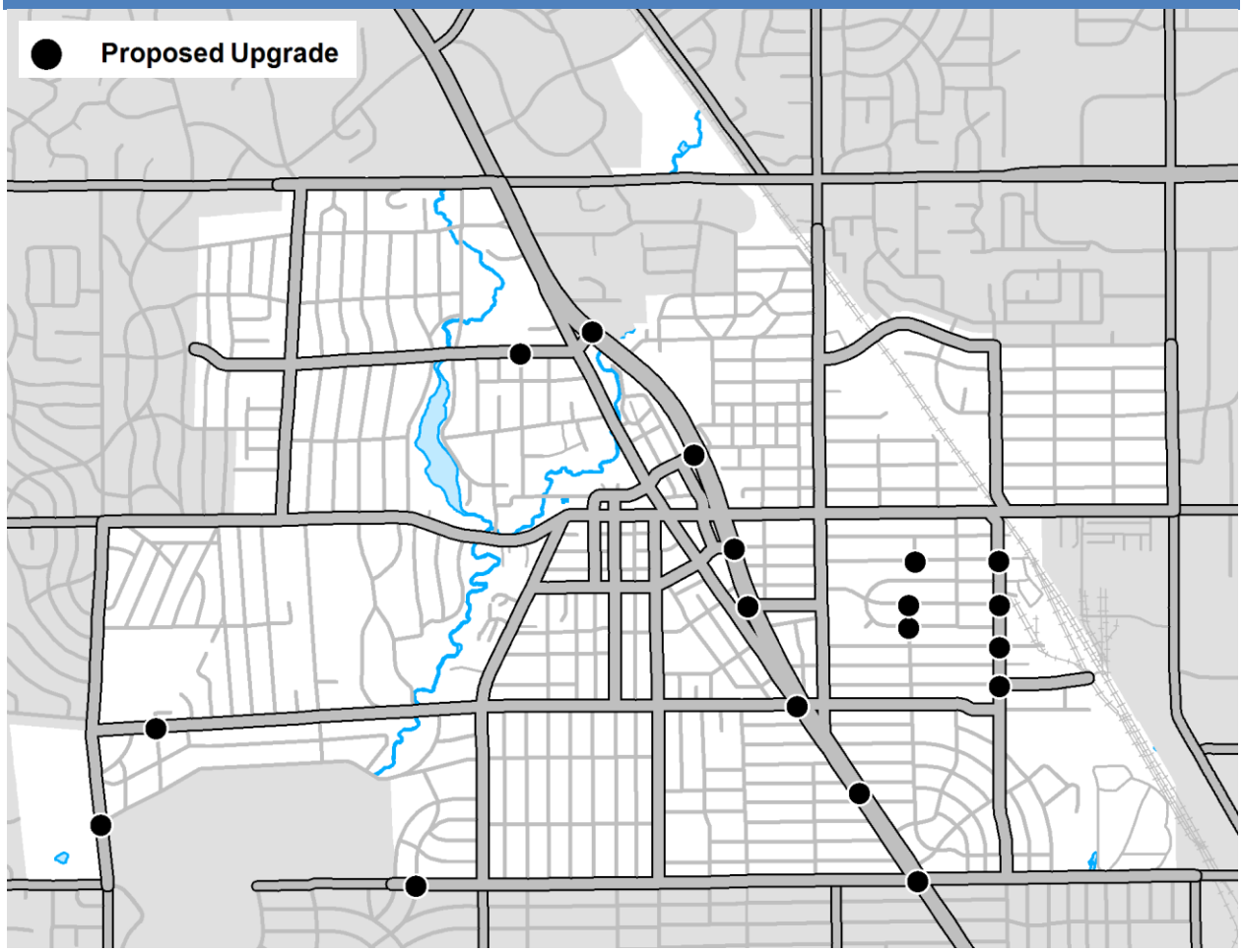




42 CURB EXTENSIONS ARE PROPOSED

- Curb Extensions reduce the effective street width by extending the sidewalk or curb into the parking lane
- Curb Extensions shorten the pedestrian's crossing distance and increase visibility between pedestrians and motorists
- Curb Extensions create small curb radii that control traffic speeds around corners
- Curb Extensions reduce the effective street width which encourages motorists to drive slower
- When curb extensions are used on a road with bike lanes, the bike lane continues past the curb extension
- Landscaping may be incorporated

FIGURE 3.3C PROPOSED CROSSING IMPROVEMENTS – UPGRADES



18 ROAD CROSSING UPGRADES ARE PROPOSED

Many of the proposed improvements include upgrades such as ramps, detectable warnings, pedestrian signals, and high visibility crosswalk markings.

Please refer to the Network Implementation Plan and Special Area Concept Plans for more details.

3.4 BIKE LANES

DESCRIPTION

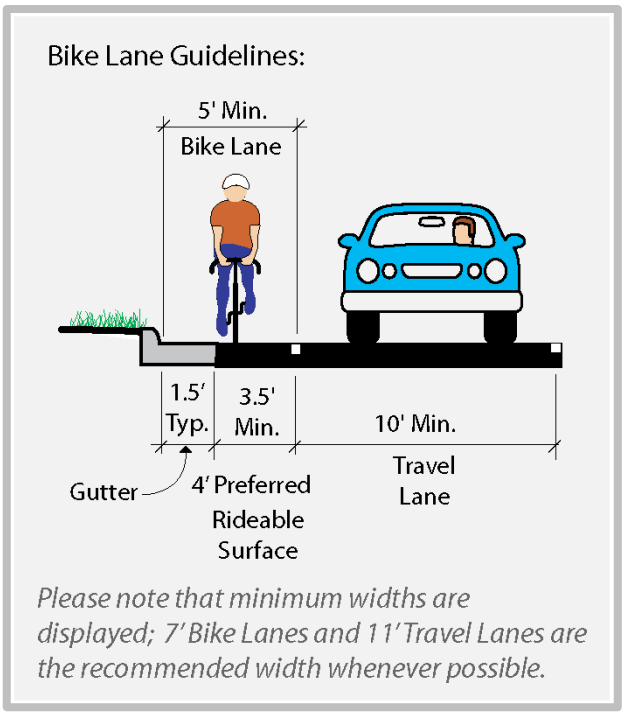
Bike lanes are a designated space in the roadway for bicyclists to travel with the flow of traffic. Pavement striping, markings and signage are used to delineate the lane. A striped bicycle lane or designated paved shoulder within the roadway is usually the safest place for a cyclist to ride.

For the most up-to-date guidelines please refer to Chapter 9 of the *MUTCD*, Chapter 4 of AASHTO's *Guide for the Development of Bicycle Facilities*, and the Bike Lane section of NACTO's *Urban Bikeway Design Guide*.

RECOMMENDATIONS

There is potential to add bike lanes on a number of the primary roads in the near future as part of CIP projects and by simply re-striping the roadway. Please refer to the Network Implementation Plan for more details.

For some roadways, the cost to add bike lanes independent of a road reconstruction project would be significant. Thus, to maximize the impact of finite resources, long-term improvements are expected to be implemented when a road is completely reconstructed (not just resurfaced). Eventually, bike lanes should be added to all arterial and collector roadways and significant local roadways. Generally roads with ADTs below 3,500 vehicles per day do not require bike lanes.



Please refer to Fig. 3.4A for a map of the proposed bike lanes.

3.5 BUFFERED BIKE LANES

DESCRIPTION

Buffered bikes lanes are conventional bike lanes paired with a designated space separating the bicycle lane from the motor vehicle lane. Similar to bike lanes, bicyclists travel with the flow of traffic. Pavement striping, markings and signage are used to delineate the lane.

When the buffer area between the bike lane and motor vehicle lane has a physical barrier, such as curbs, the facility is called a cycle track.

For the most up-to-date guidelines please refer to Chapter 9 of the *MUTCD*, Chapter 4 of AASHTO's *Guide for the Development of Bicycle Facilities*, and the Buffered Bike Lane section of NACTO's *Urban Bikeway Design Guide*.

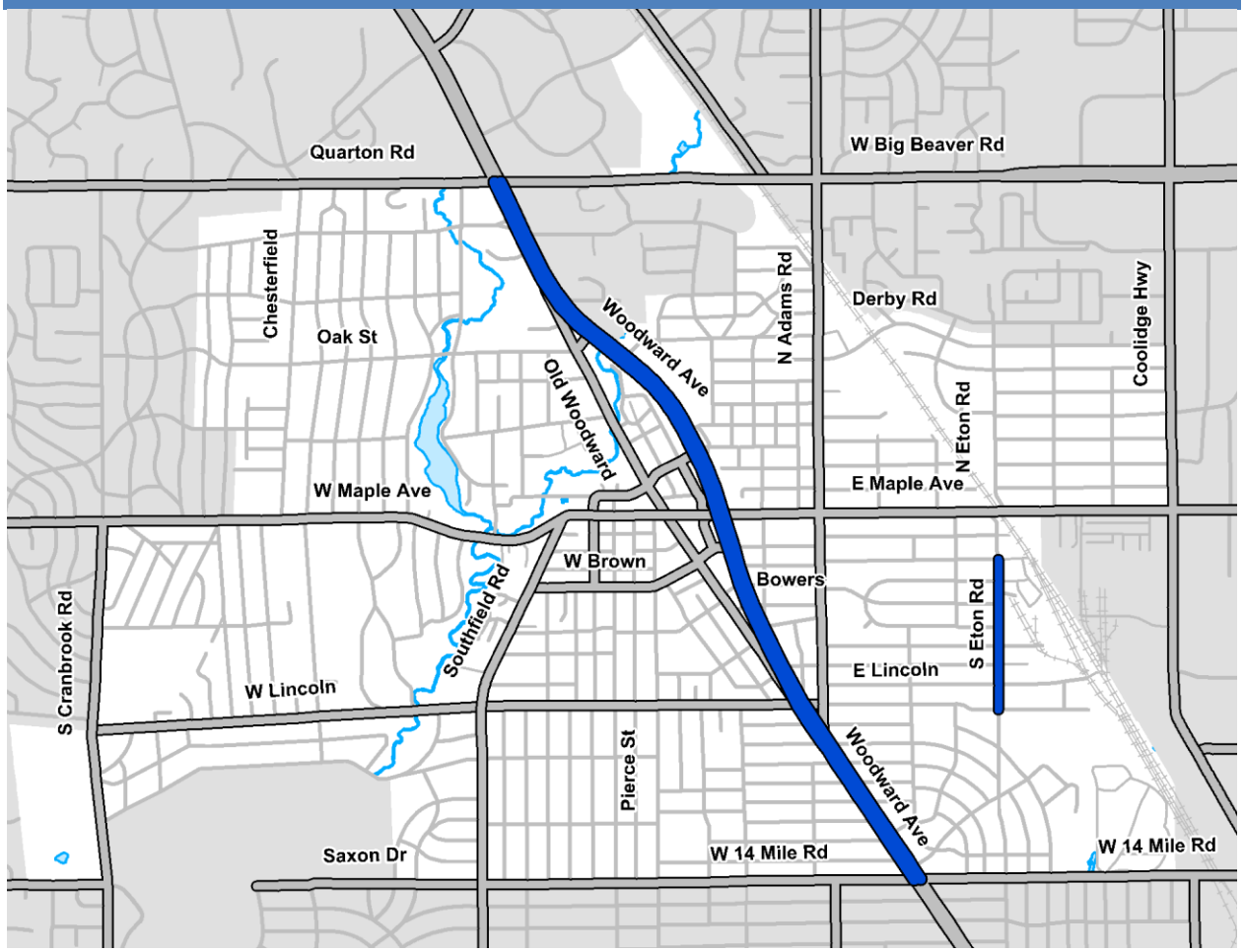
RECOMMENDATIONS

On S. Eton Road between W. Maple Road and W. Lincoln Street there is potential to add buffered bike lanes to the west side of the road by removing on-street parking from that side of the street. Due to the proximity of the Rail District, parking would remain on the east side of the street. See the Network Implementation Plan for more details.

There is potential to enhance the bicycle and pedestrian environment along Woodward Avenue. Bike lanes could be added to the service drive with a curbed buffer area between the bike lane and Woodward Avenue. Please refer to the Special Area Concept Plans for more details.

Please refer to Fig. 3.5A for a map of the proposed buffered bike lanes.

FIGURE 3.5A PROPOSED NEAR-TERM BIKE LANES



Buffered Bike Lanes

Proposed

APPROXIMATELY 2.8 MILES OF BUFFERED BIKE LANES ARE PROPOSED

Web Survey Results:

- Around 75% of respondents would be comfortable riding a bike on a cycle track

3.6 SHARED LANE MARKINGS

DESCRIPTION

Shared Lane Markings are used to indicate to bicyclists a recommended lane position and to indicate to motorists to expect bicycles. They are used on roads with speeds of 35 mph or less. Shared lane markings may be used to help position bicyclists a safe distance from parked cars (so that they do not run into opening car doors). They are also used in conjunction with bike lanes where the bike lane is discontinued for a stretch of roadway due to limited road width.

Colored Shared Lane Markings are Shared Lane Markings placed on top of a continuous green lane. They should be used in areas where a higher level of visibility is desired.

For the most up-to-date guidelines please refer to Chapter 9 of the *MUTCD*, Chapter 4 of AASHTO's *Guide for the Development of Bicycle Facilities*, and the Bikeway Signing & Marking section of NACTO's *Urban Bikeway Design Guide*.

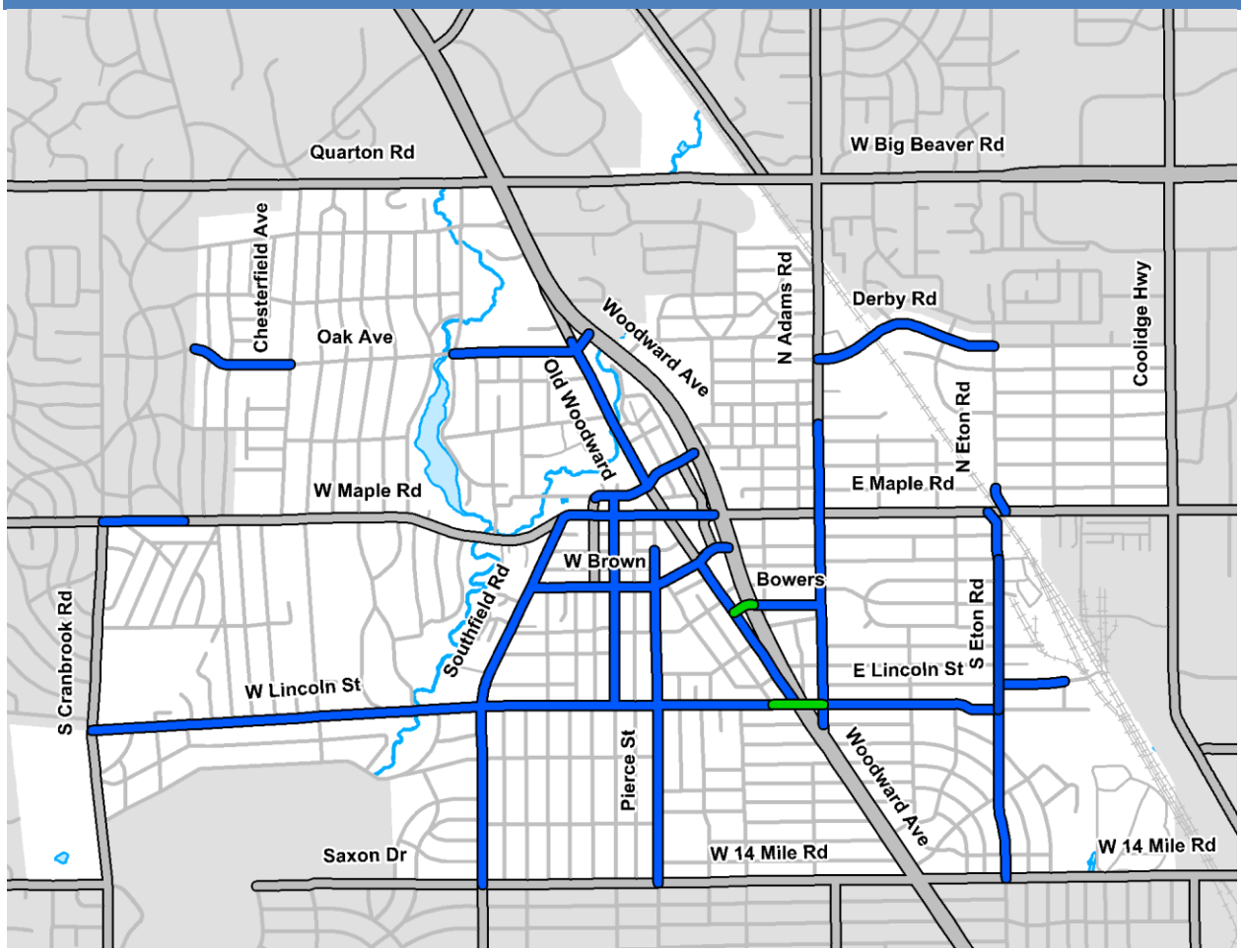
RECOMMENDATIONS

Due to the desire to keep on-street parking, Shared Lane Markings are proposed on most collector roads and some arterial roads. Please refer to the Network Implementation Plan for more details.

Colored Shared Lane Markings are proposed on segments of Bowers Street and E Lincoln Street where they cross Woodward Avenue. Please refer to the Network Implementation Plan and Special Area Concept Plans for more details.

Please refer to Fig. 3.6A for a map of the proposed shared lane markings.

FIGURE 3.6A PROPOSED SHARED LANE MARKINGS



Shared Lane Markings

- Proposed Shared Lane Markings
- Proposed Colored Shared Lane Markings

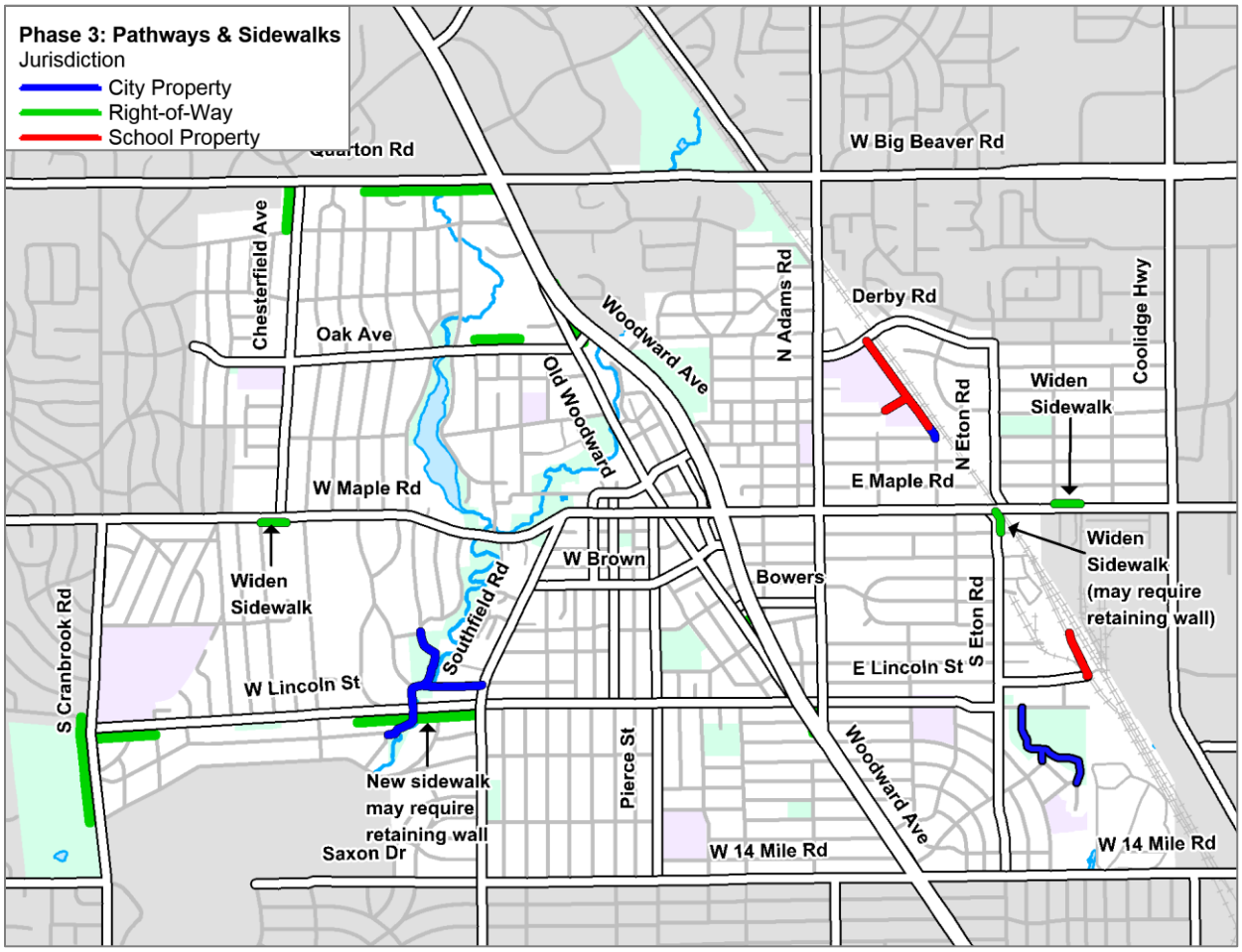
APPROXIMATELY 10.7 MILES OF NEW SHARED LANES MARKINGS ARE PROPOSED AND 0.2 MILES OF COLORED SHARED LANE MARKINGS ARE PROPOSED

PHASE 3: RECOMMENDED PATHWAYS & SIDEWALKS

Phase 1 and Phase 2 focus on addressing some of the more critical gaps in the sidewalk system. Phase 3 should focus on completing the remaining gaps in the system. Completing sidewalk gaps can be costly so it is important to utilize opportunities, especially when a road is reconstructed or a property is developed.

The remaining sidewalks and pathways are on City property, school property or in the road right-of-way.

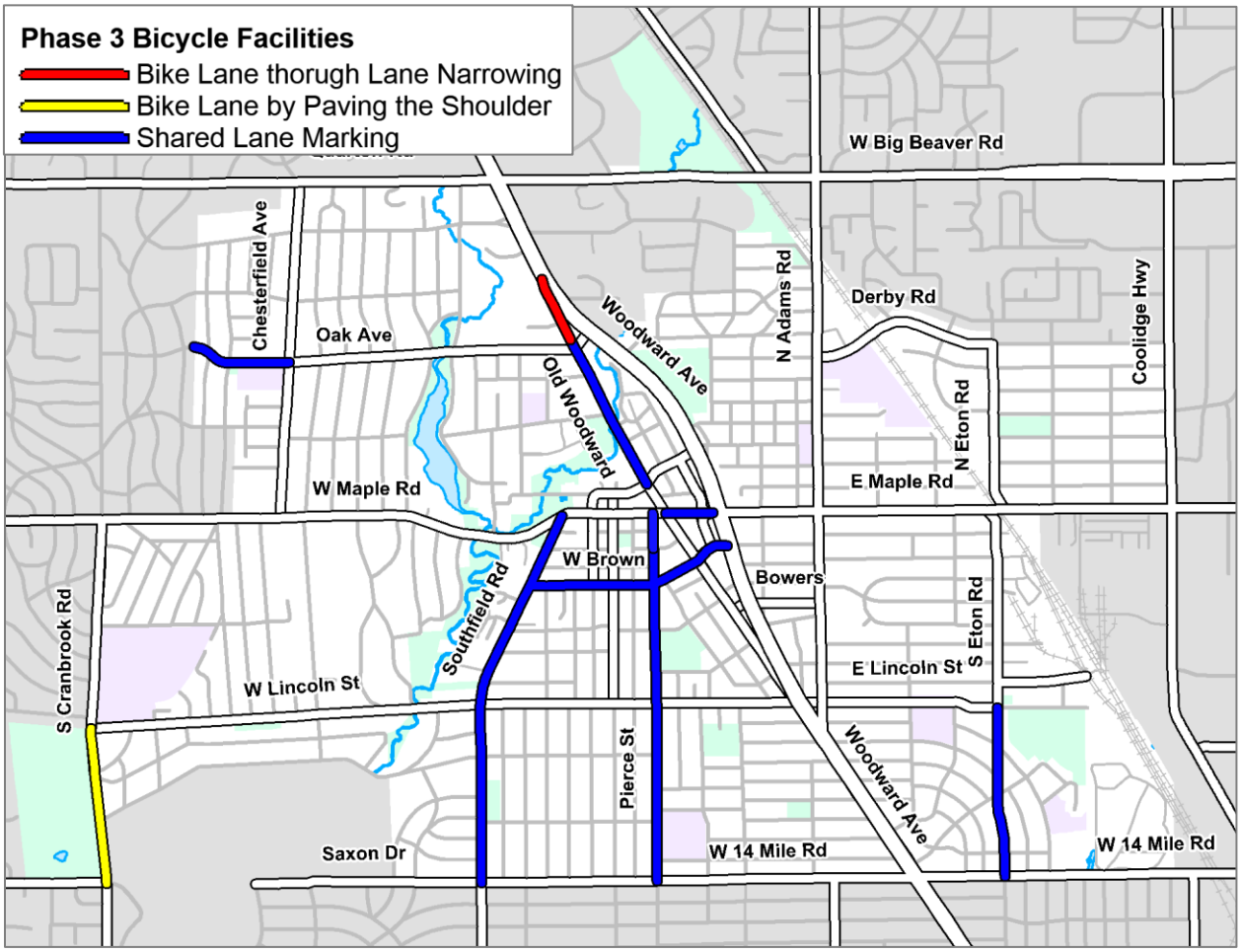
In the future, whenever a site is redeveloped, non-motorized connections should be provided either as a sidewalk along a roadway with bike lanes or a shared-use pathway.



PHASE 3: RECOMMENDED BICYCLE FACILITIES

With the exception of paving the shoulder on S Cranbrook Road, the remainder of the proposed bicycle facilities can be implemented quite easily within the existing roadway with pavement markings.

With time, as bicycle levels increase there may be a desire to add a designated bike lane in place of shared lane markings. For many of the roadways this would mean removing on-street parking or widening the roadway. Where the removal of on-street parking is not an option or not desired, the cost to add bike lanes to the roadway independent of a road reconstruction project would be significant. Thus to maximize the impact of finite resources bicycle lanes should be implemented when the road is completely reconstructed.



Recommendations

The following recommendations are offered by the Ad Hoc Rail District Committee.

Recommendation 1: Improve Pedestrian Crossings

Issues: Some crosswalks and intersections along S. Eton Road are dangerous due to the lack of visibility they create for pedestrians attempting to cross the street. Traffic is heavy and often exceeds the posted speed limit.

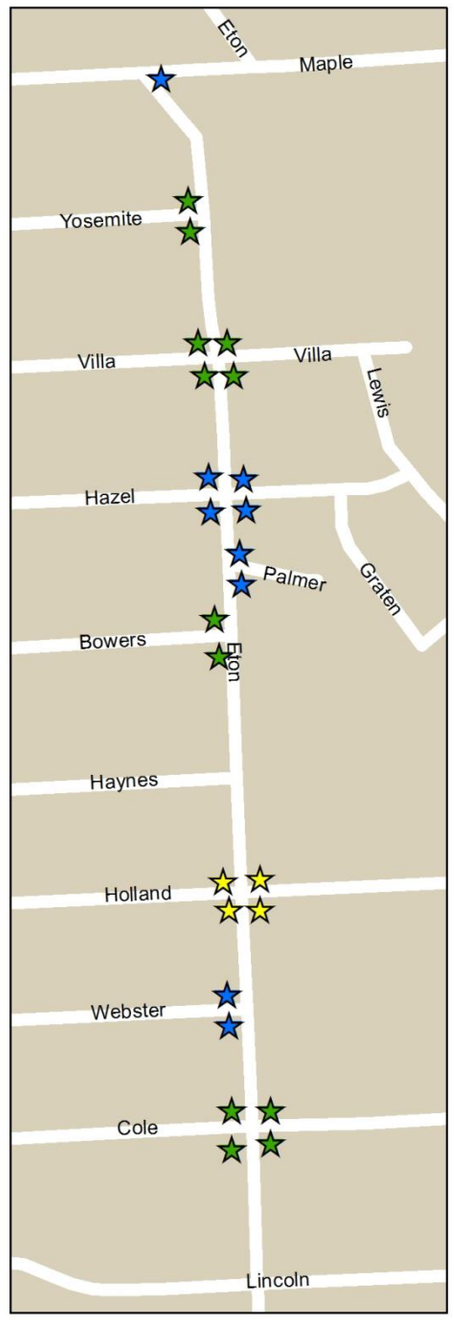
Recommendation: Construct bump-out curbs throughout the study area.

A bump-out curb is a traffic calming method in which a sidewalk is extended to reduce the crossing distance at intersection. In doing so, sight distance and sight lines for pedestrians are improved, vehicles are encouraged to slow down, and parked cars are prevented from obstructing crosswalk areas.

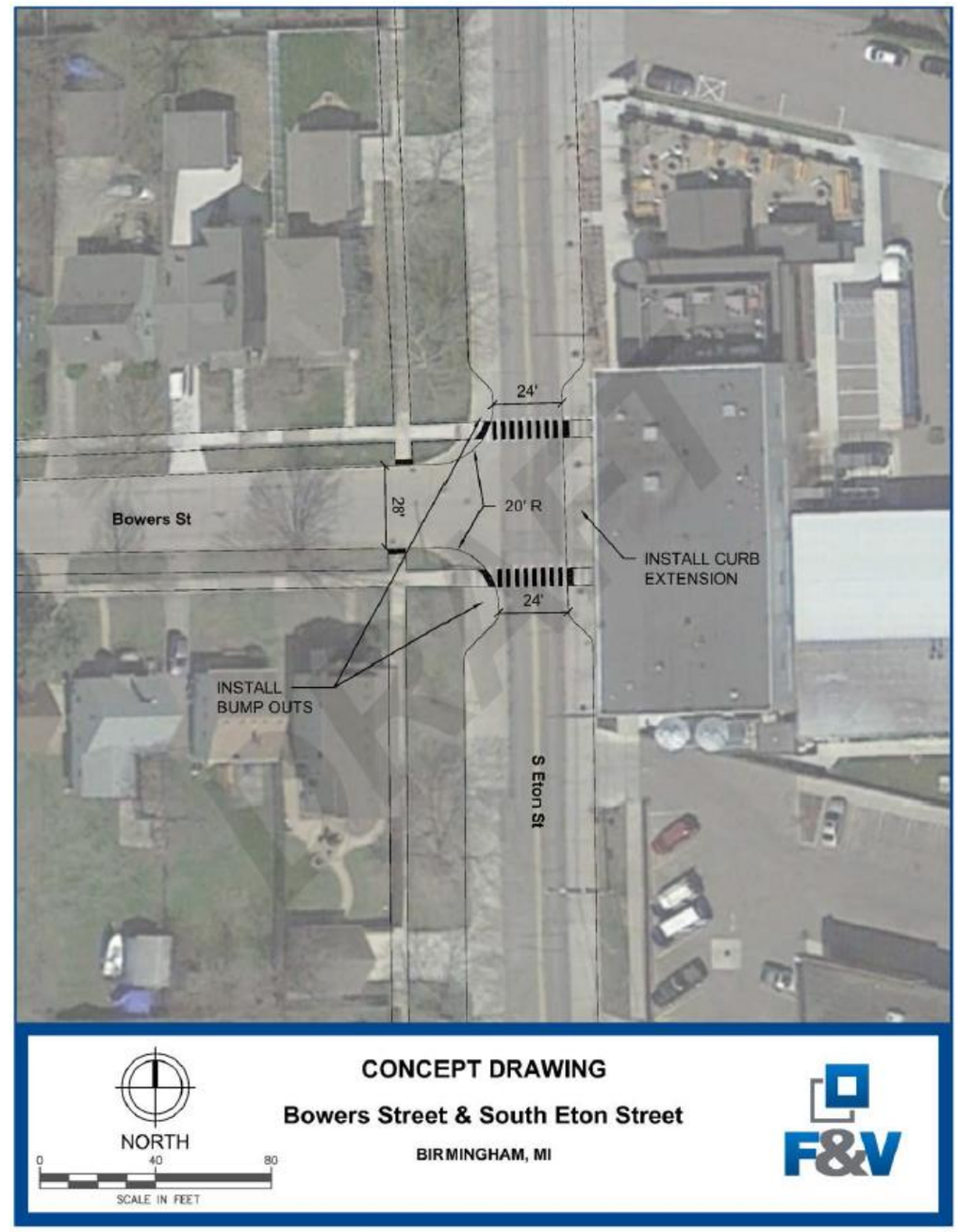
The map to the right illustrates the locations for each of the recommended bump-out curbs along S. Eton. Bump-out curbs recommended by the Committee, which are denoted by a blue star, are located along S. Eton at E. Maple, Palmer, and Webster. Green stars indicate bump-out curbs recommended explicitly by the MMTP and are located at Yosemite, Villa, and Cole. Lastly, bump-out curbs recommended by both the Committee and MMTP have been proposed for the intersection at Holland and S Eton and are denoted by a yellow star.

Please also note the sample engineering drawing of proposed improved pedestrian crossings at Bowers and S. Eton. As demonstrated, the installation of two bump-out curbs and a curb extension at this intersection could provide a safer, more visible pedestrian crossing point without obstructing right and left turn accessibility for vehicles. The Committee further recommends the use of brick pavers or other materials to create a plaza feel at this intersection. Benches, planters, and bicycle parking are also recommended.

Proposed Bump-out Locations



Sample Engineering Drawing of Bump-out Curbs



Parking Inventory and Study

A Parking inventory was completed in the study area for a better understanding of when and where parking spaces are being utilized. A map of total spaces was created for private lots and on street parking. The results are illustrated in Figure 1, and show an existing parking count of 2,480 spaces in the study area and surrounding neighborhood.

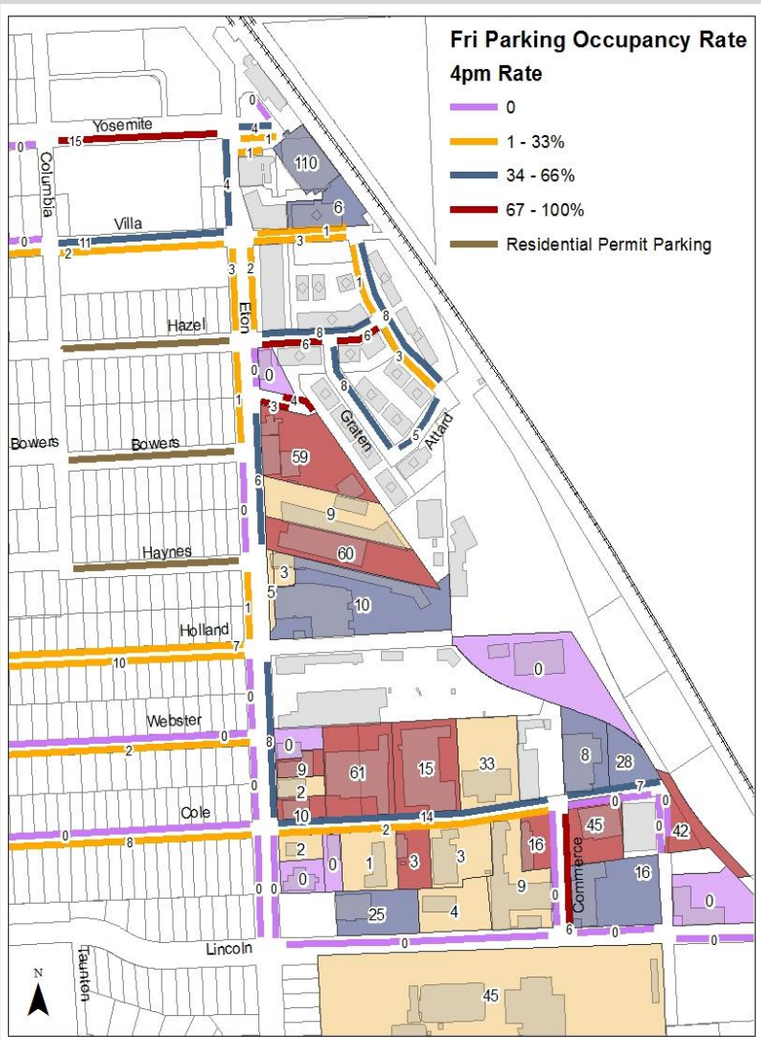
A parking study was also completed to determine parking utilization in the study area. Parking counts were conducted by city staff at 4, 5, and 6pm on Friday September 23rd and Wednesday September 30th, and the data was then analyzed.

The consulting firm Fleis and Vandenbrink was contracted to create a report for the count studies and provide summary tables showing available spaces, occupied spaces, and percent occupancy rate for the north and south zones of the study area. An analysis and conclusion based upon the findings was then made for off street and on street parking situations in each of the zones.

Count data was then entered into a map for each day and time of the study. The maps on the following pages indicate the total counts for each hour of on street and off street parking spaces, and color code the percent occupancy rate in classes for 0, 1-33%, 34-66%, and 67-100%. These maps are shown side by side to visually illustrate the intensities of parking in the district, and how the parking occupancy rates change from 4-6pm in the study area.

Figure 1

Friday Parking Count: 4:00 PM

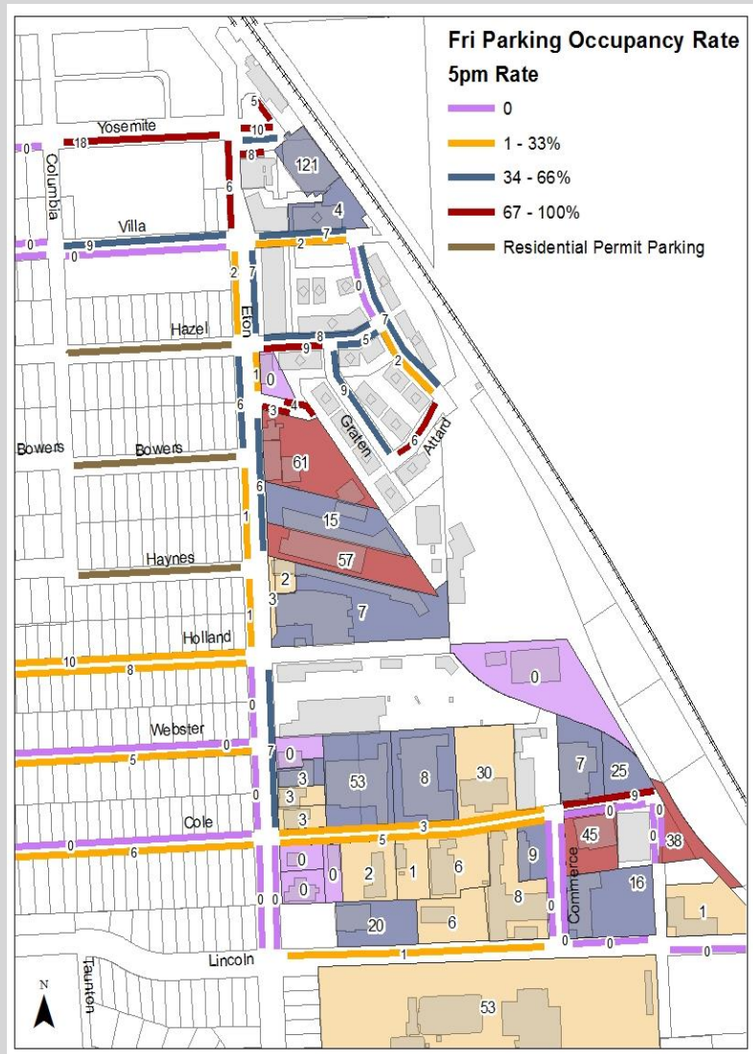


S. Eton Rd
- 9 out of 60 spaces on the west side are used
- 16 out of 63 spaces on the east side are used

Off Street Parking
- Parking lots off of Cole Street at or near capacity
- Griffin Claw already above 66% capacity

Residential Parking
- Yosemite and Villa experience overflow throughout the evening.
- Villa stays between 33-66% occupancy rate throughout the Friday study.

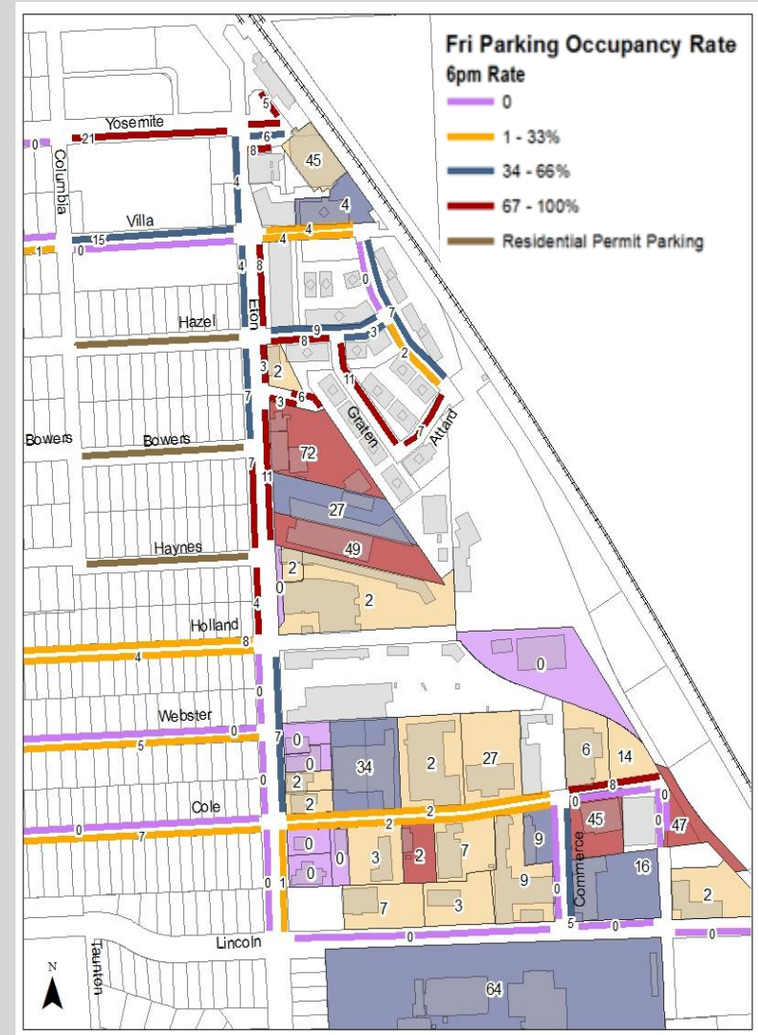
Friday Parking Count: 5:00 PM



S. Eton Rd
- 16 out of 60 spaces on the west side are used
- 21 out of 63 spaces on the east side are used

Off Street Parking
- The lots off of Cole Street begin to clear out
- Two of the parcels above 66% are auto repair shops with outdoor vehicle storage.

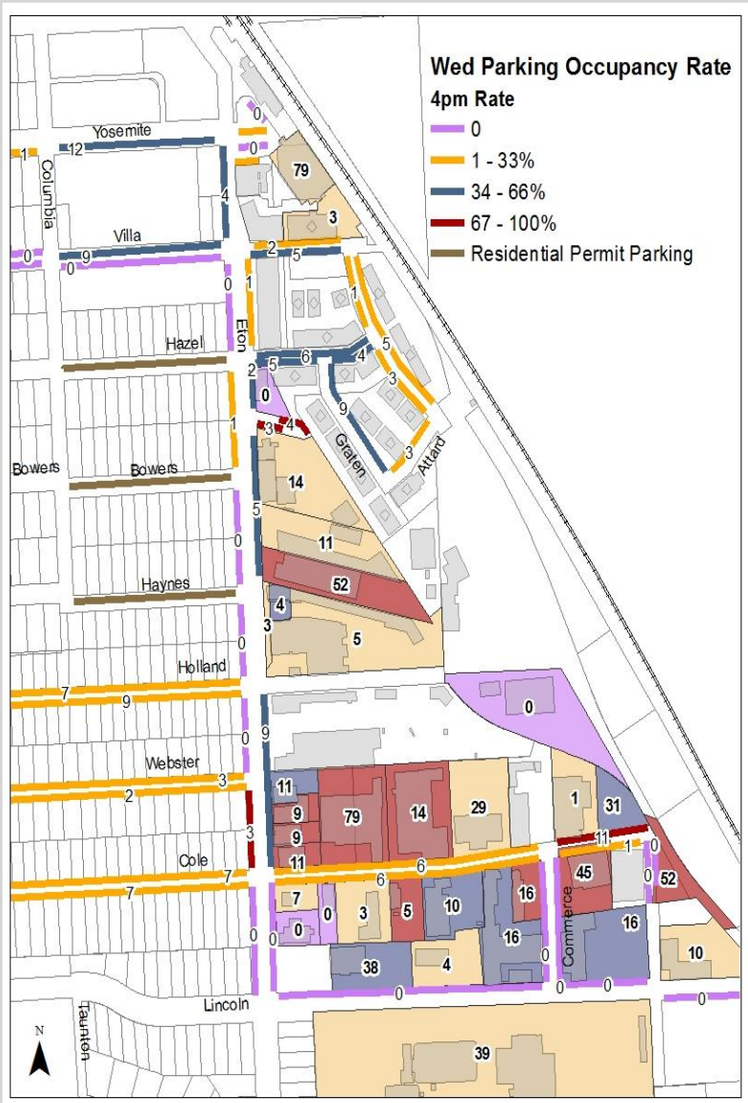
Friday Parking Count: 6:00 PM



S. Eton Rd
- 26 out of 60 spaces on the west side are used
- 30 out of 63 spaces on the east side are used
  *the highest occupancy throughout the study
- 0 spaces on west side, south of Holland are used the entire evening

Off Street Parking
- Griffin Claw parking lot reaches capacity.
- Only 2 of 11 spaces are used in Whistle Stop.
- 0 spaces are used outside of Bolyard Lumber.
- Robot Garage/Watch Hill lot never exceeds 66%.

Wed. Parking Count: 4:00 PM



S. Eton
- 7 out of 60 spaces on the west side are used
- 17 out of 63 spaces on the east side are used

Off Street Parking
- Cole Street's highest occupancy rate for off street lots occurs on weekday during regular business hours.

Wed. Parking Count: 5:00 PM

S. Eton
- 4 out of 60 spaces on the west side are used
- 13 out of 63 spaces on the east side are used
  *lowest occupancy in the study

Off Street Parking
- The majority of Cole Street parking lots clear out after 5 pm.

Wed. Parking Count: 6:00 PM

S. Eton
- 8 out of 60 spaces on the west side are used
- 9 out of 63 spaces on the east side are used
  *lowest occupancy in the study

Off Street Parking
- Griffin Claw's peak parking hours increase during the evening while the rest of the parcels show a decrease in use.
- Shared Parking agreements work best when adjacent or nearby parcels have different peak parking times.

Recommendation 4: Encourage Shared Parking

Issue: Many properties are dominated by excessively large parking lots that are not being efficiently used. Vast parking lots in the district are vacated after peak business hours and remain empty throughout the evening because of restricted access, while other lots overflow around restaurants in the evenings.

Empty parking lots can be found throughout the study area.

Shared parking is a land use strategy that efficiently uses parking capacity by allowing adjacent and/or compatible land uses to share spaces, instead of providing separate spaces for separate uses. Often, a shared parking agreement is put in place between two or more property owners and the jurisdiction to ensure parking spaces on a site are made available for other uses at different times throughout the day.

Recommendation: Encourage shared parking in the district by providing the zoning incentives for properties and/or businesses that record a shared parking agreement. Incentives could include parking reductions, setback reductions, height bonuses, landscape credits, or similar offers.

Amend the shared parking provisions to simplify the calculations to determine required parking based on industry standards and eliminate the need to hire a consultant to prepare shared parking studies. See table to the right for an example of a shared parking calculation from Victoria Transport Policy Institute.

Sample Shared Parking Occupancy Rates Table

This table defines the percent of the basic minimum needed during each time period for shared parking. (M-F = Monday to Friday)

Uses	M-F	M-F	M-F	Sat. & Sun.	Sat. & Sun.	Sat. & Sun.
	8am-5pm	6pm-12am	12am-6am	8am-5pm	6pm-12am	12am-6am
Residential	60%	100%	100%	80%	100%	100%
Office/ Warehouse /Industrial	100%	20%	5%	5%	5%	5%
Commercial	90%	80%	5%	100%	70%	5%
Hotel	70%	100%	100%	70%	100%	100%
Restaurant	70%	100%	10%	70%	100%	20%
Movie Theater	40%	80%	10%	80%	100%	10%
Entertainment	40%	100%	10%	80%	100%	50%
Conference/Convention	100%	100%	5%	100%	100%	5%
Institutional (non-church)	100%	20%	5%	10%	10%	5%
Institutional (church)	10%	5%	5%	100%	50%	5%

Courtesy of Victoria Transport Policy Institute

ENGAGE BIRMINGHAM

South Eton Bikeway Survey

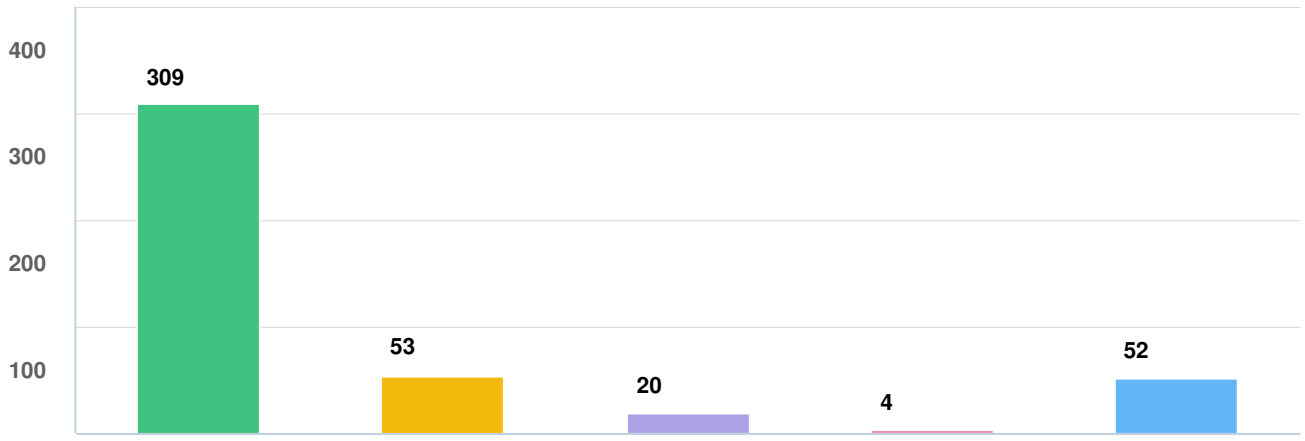
SURVEY RESPONSE REPORT
29 April 2021 - 26 April 2023

PROJECT NAME:
South Eton Bikeway

BANG THE TABLE engagementHQ

REGISTRATION QUESTIONS

Q1 What best describes you? (check all that apply)

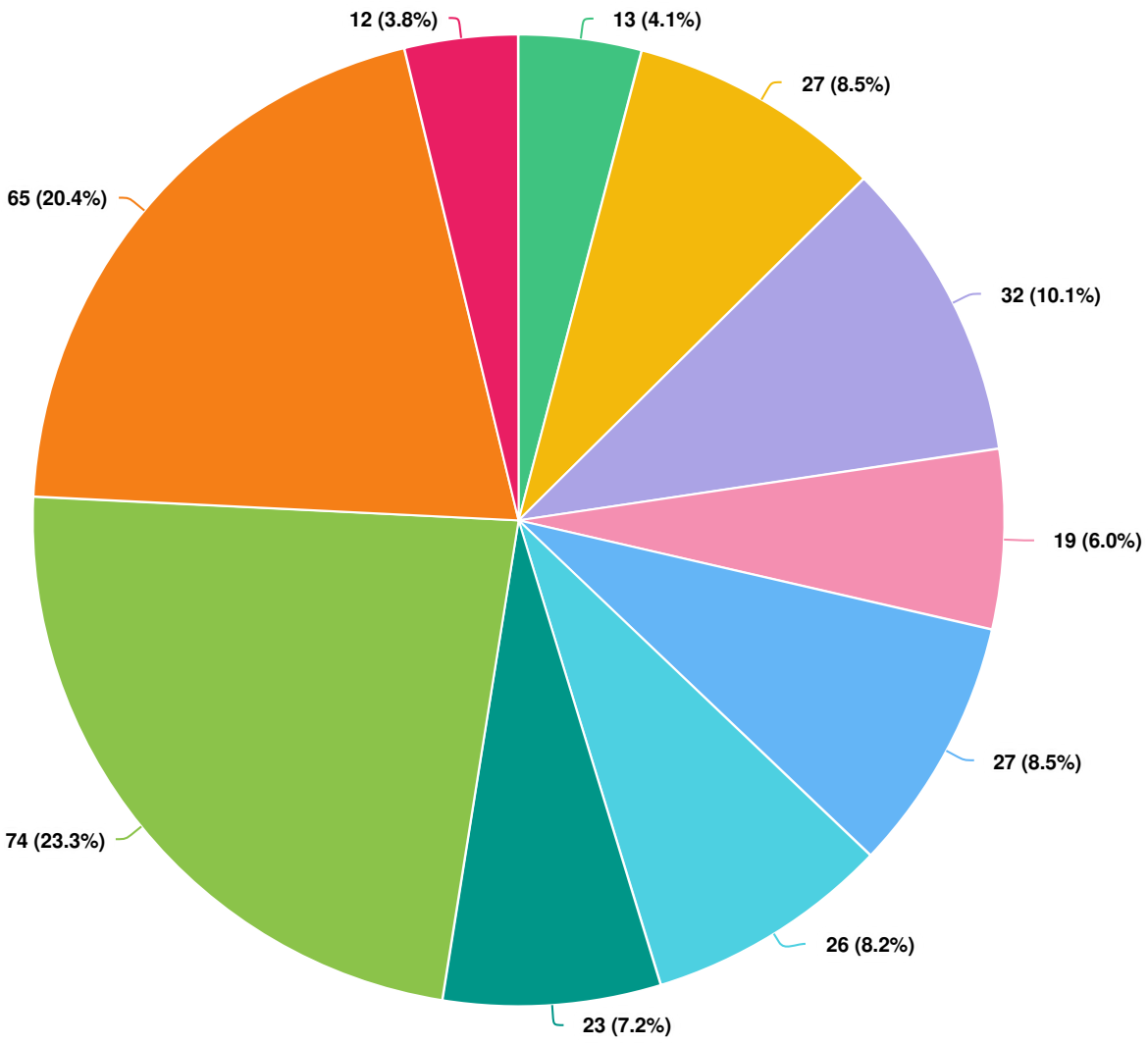


Question options

- I live in Birmingham.
- I work in Birmingham.
- I own a business in Birmingham.
- I am a student in Birmingham.
- I am a frequent visitor to Birmingham.

Mandatory Question (342 response(s))
Question type: Checkbox Question

Q2 Which section of Birmingham do you live in?

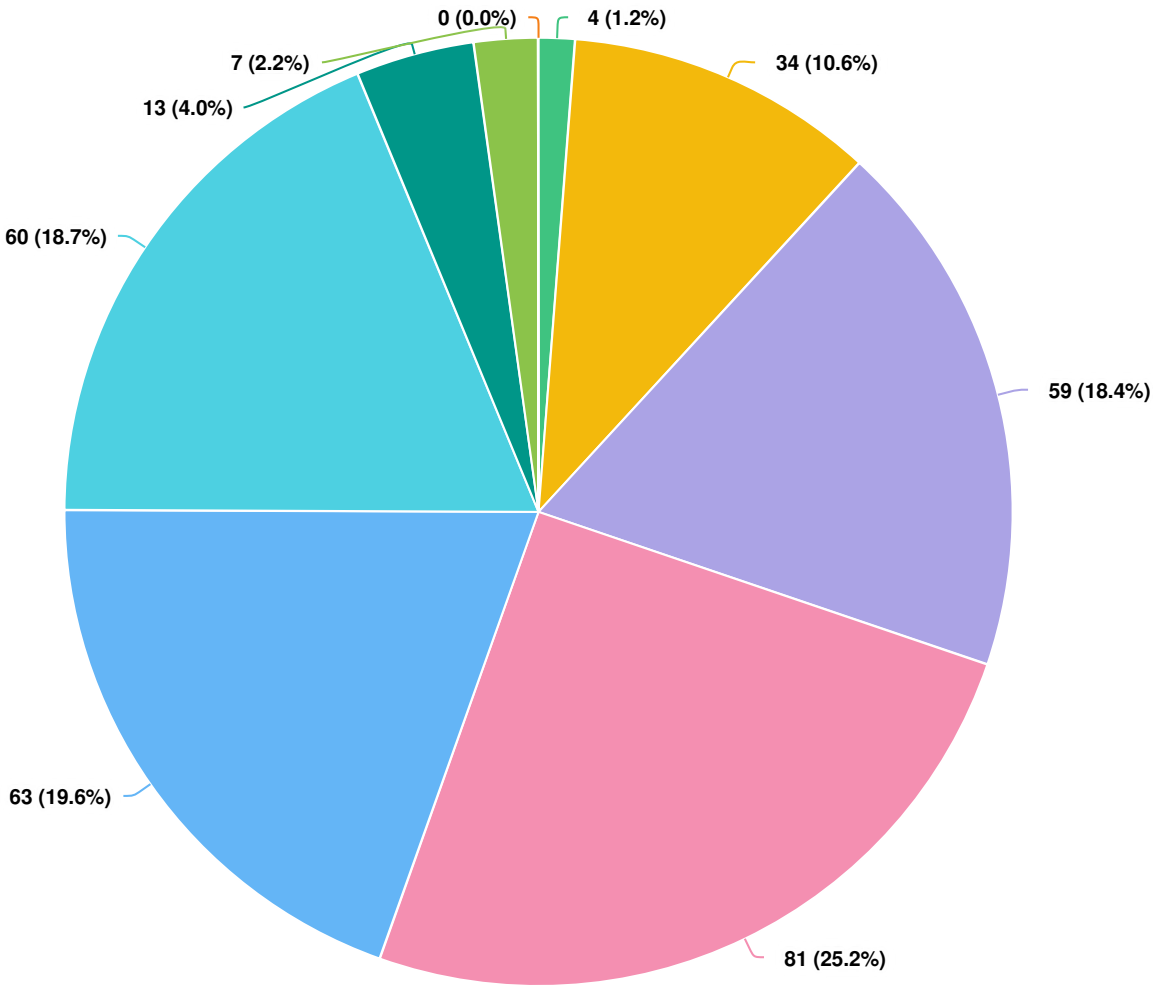


Question options

1 2 3 4 5 6 7 8 9 N/A

Optional question (318 response(s), 24 skipped)
Question type: Dropdown Question

Q3 In which decade were you born?



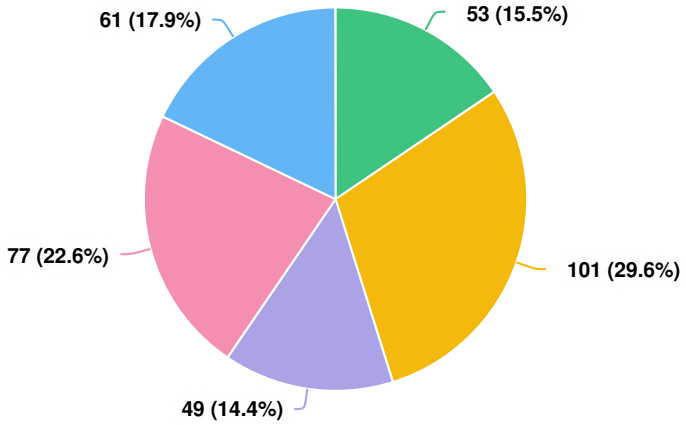
Question options

1931-1940 · 1941-1950 · 1951-1960 · 1961-1970 · 1971-1980 · 1981-1990 · 1991-2000 · After 2000 · Before 1931

Optional question (321 response(s), 21 skipped)
Question type: Dropdown Question

SURVEY QUESTIONS

Q1 How frequently do you bike?

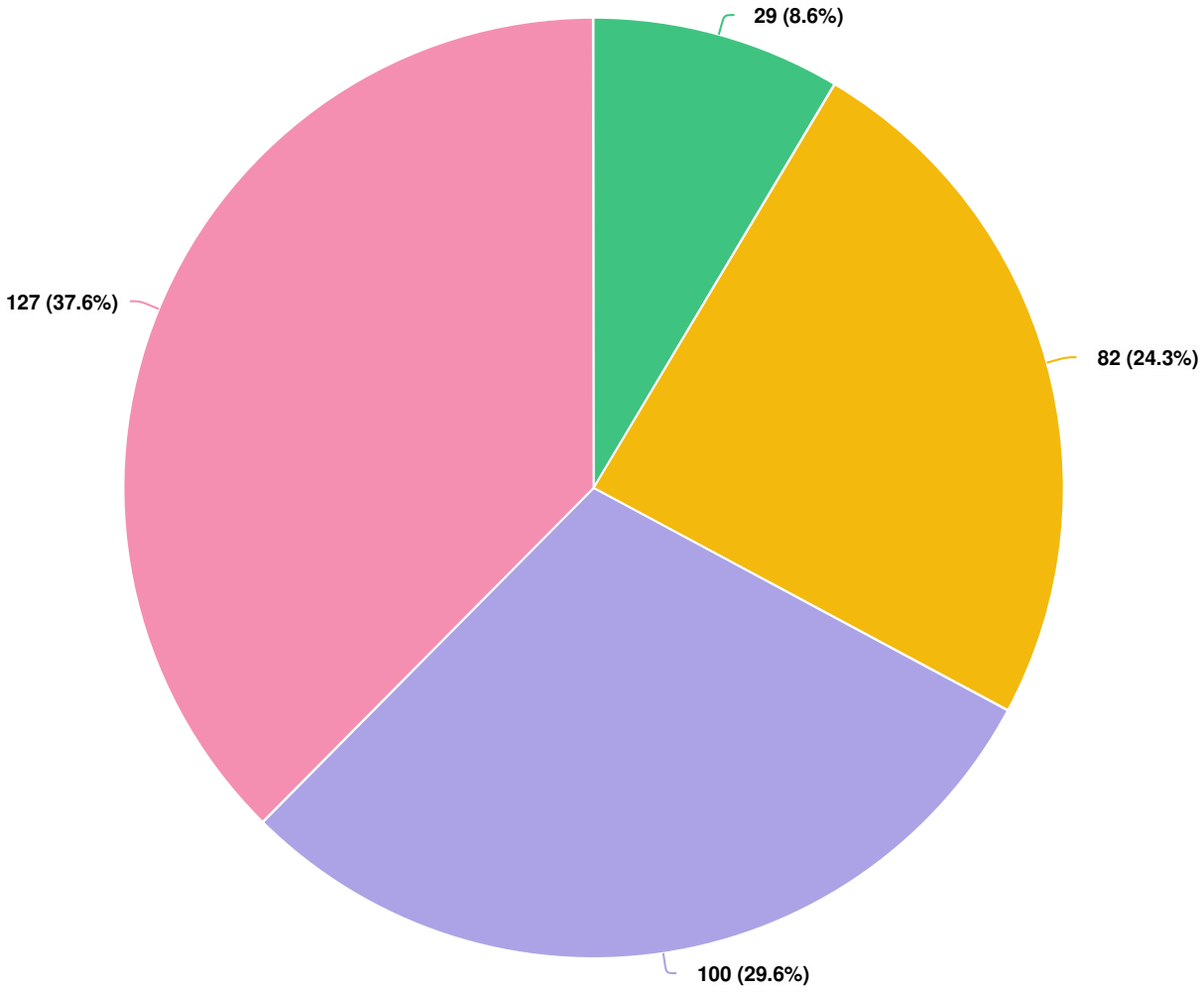


Question options

- Daily
- Weekly
- Monthly
- A few times a year
- Never

Optional question (341 response(s), 1 skipped)
Question type: Radio Button Question

Q2 How often do you bike this route on South Eton as indicated in the map above?

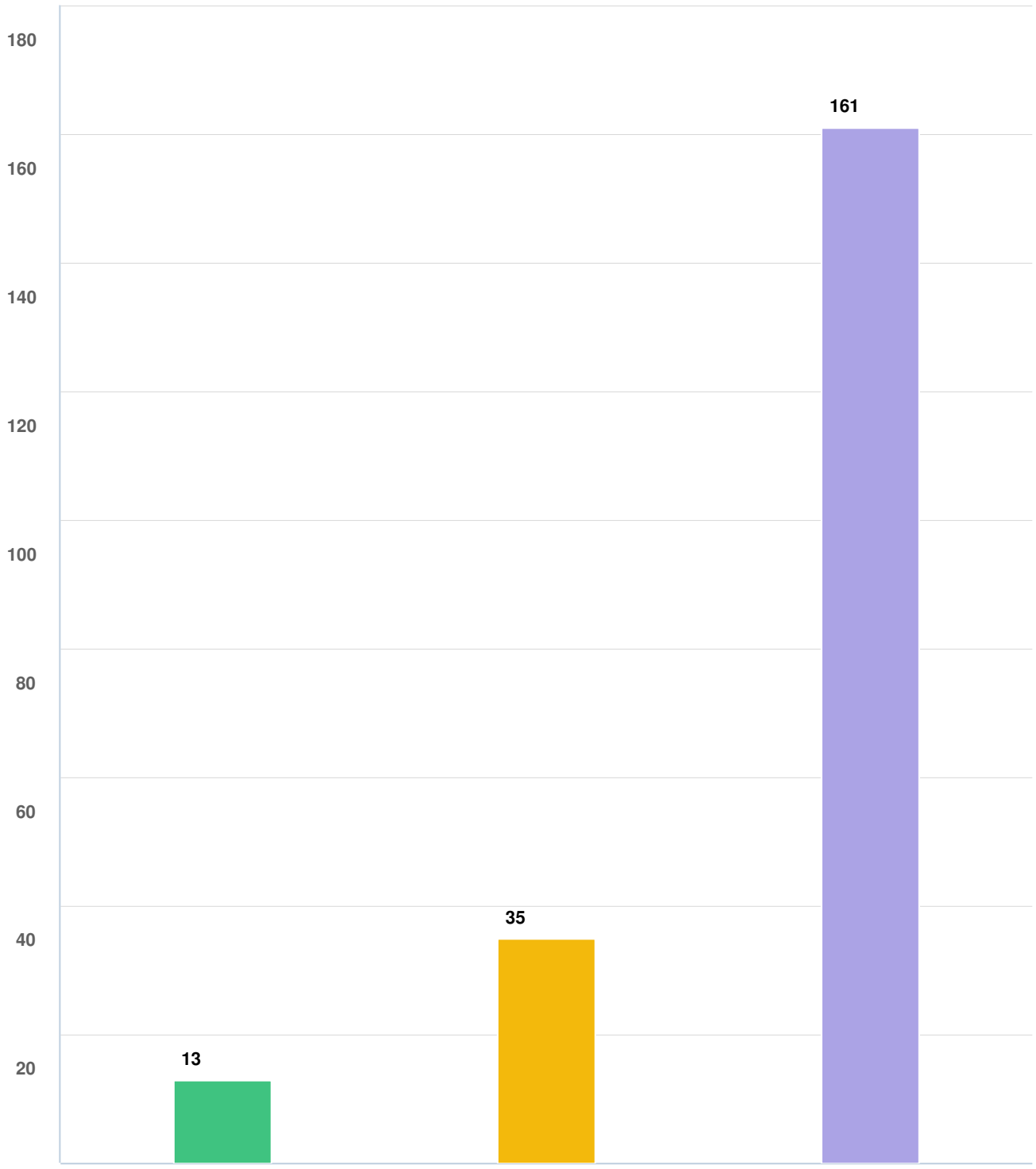


Question options

- Very frequently (daily or most days)
- Some of the time (once or twice a week)
- Rarely (once a month or less)
- Never

Optional question (338 response(s), 4 skipped)
Question type: Radio Button Question

Q3 Which direction(s) do you use the bike lane to ride?

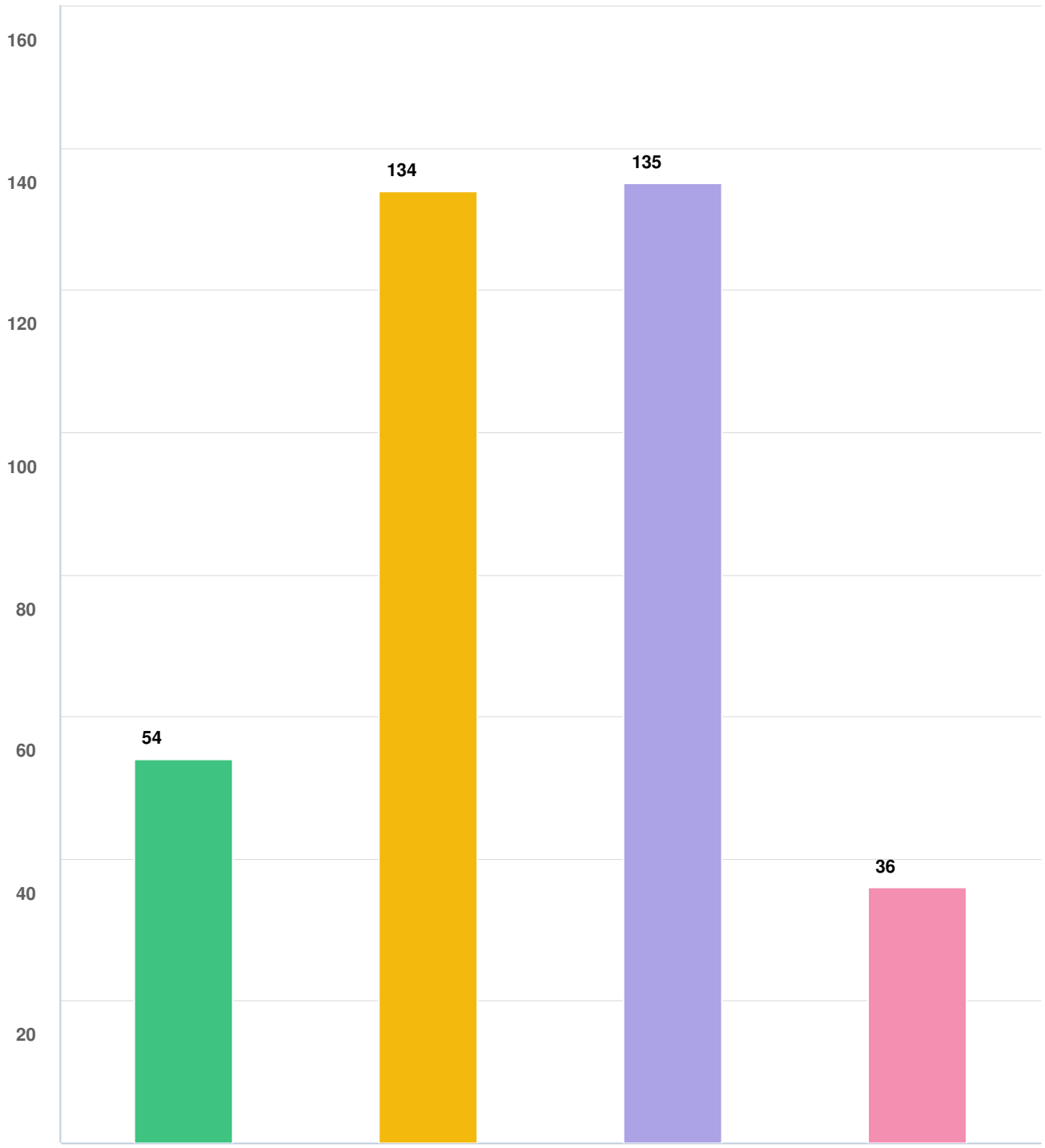


Question options

- I use the bike lane to ride north.
- I use the bike lane to ride south.
- I use the bike lane to ride north and south.

Optional question (204 response(s), 138 skipped)
Question type: Checkbox Question

Q4 What are your top reasons for using this bike route? (Please select all that apply.)

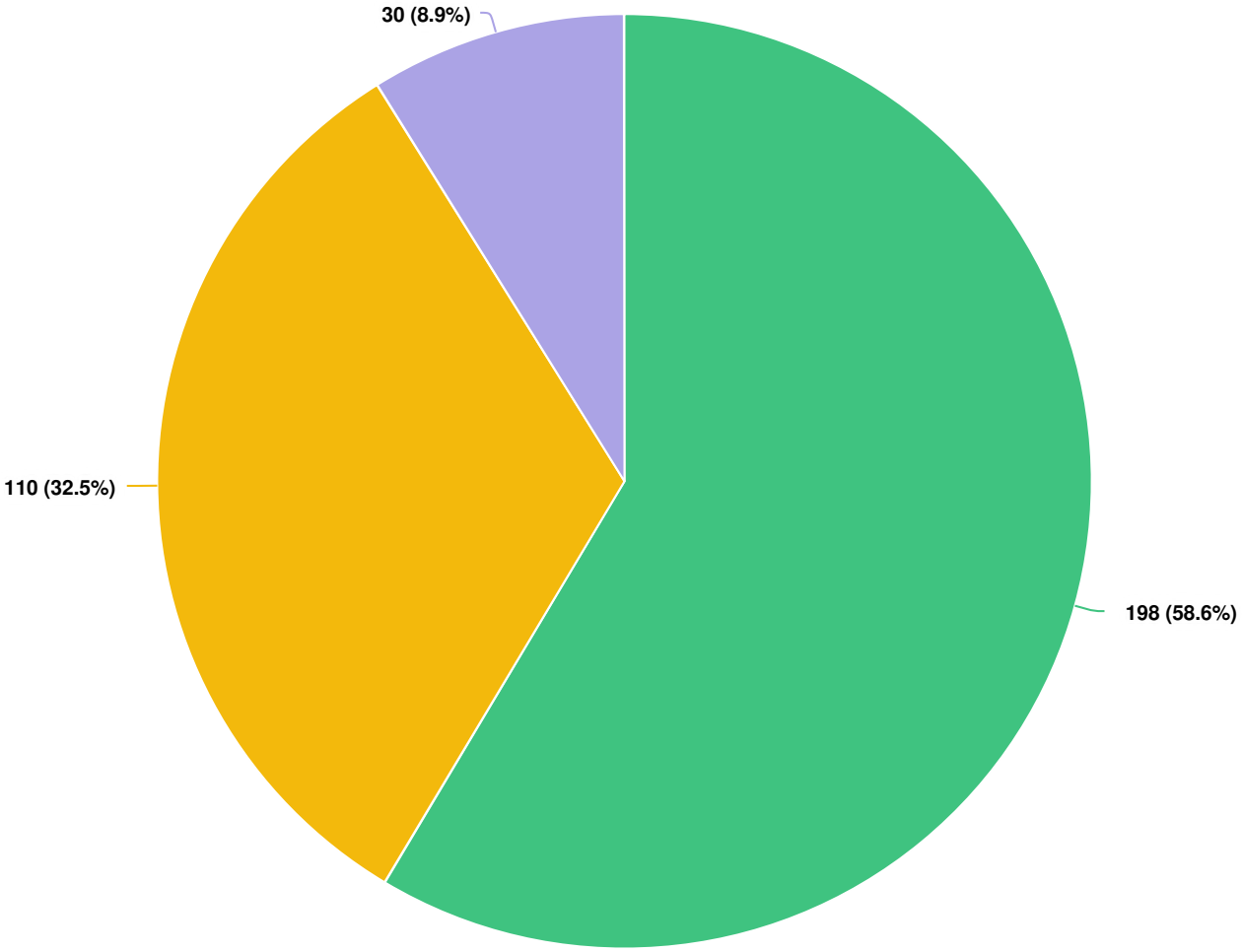


Question options

- This is the fastest route to travel to work/home/school/etc.
- I feel safer taking this route vs. others because of the bike lanes.
- N/A I do not use this route.
- Other (please specify)

Optional question (337 response(s), 5 skipped)
Question type: Checkbox Question

Q5 Do you think that the protected bike lane is better than a painted bike lane or sharing the road with cars?

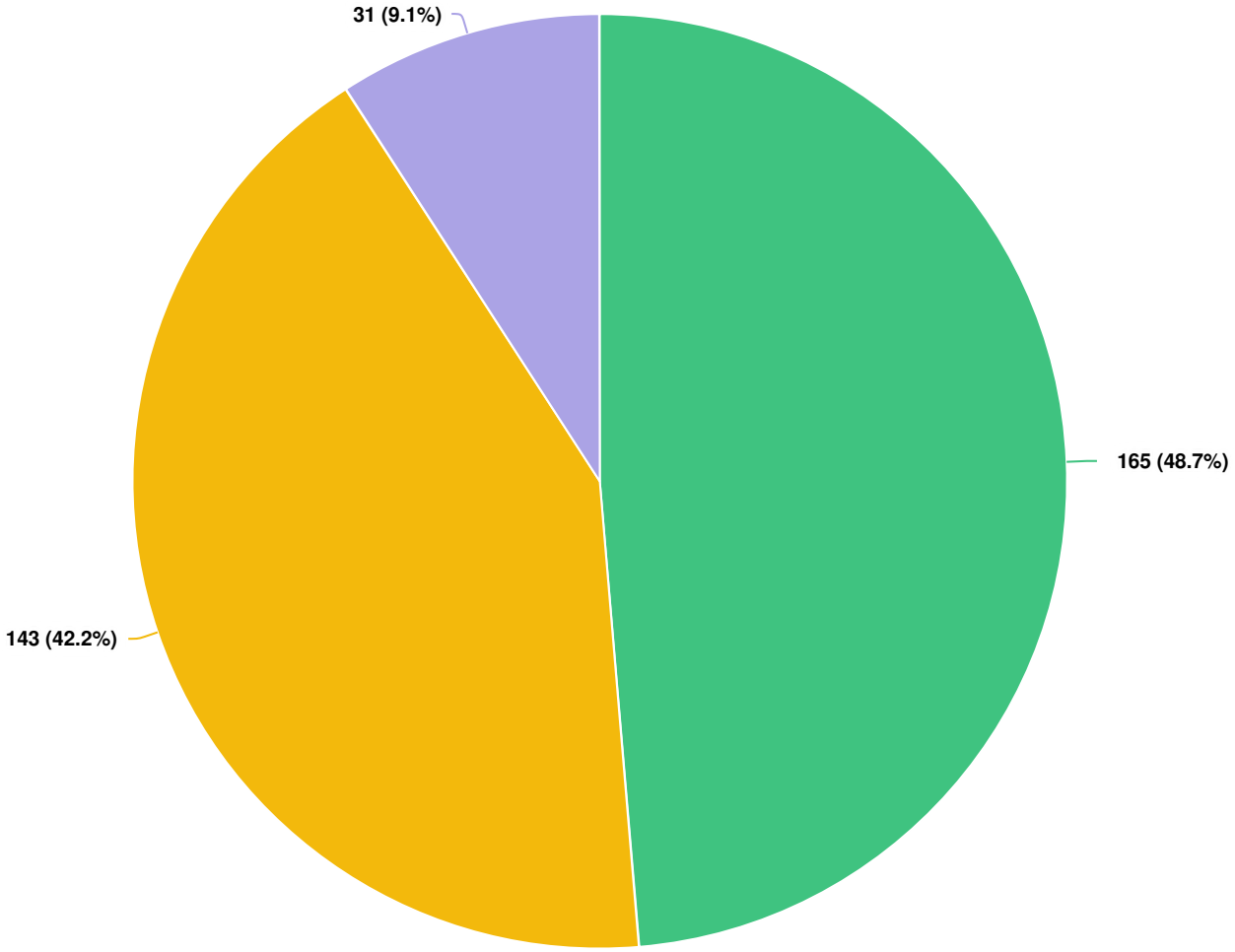


Question options

Yes No Neutral

Optional question (338 response(s), 4 skipped)
Question type: Radio Button Question

Q6 Do you like the design of the protected portion of bikeway in comparison to other options such as painted bike lanes or bike sharrows?

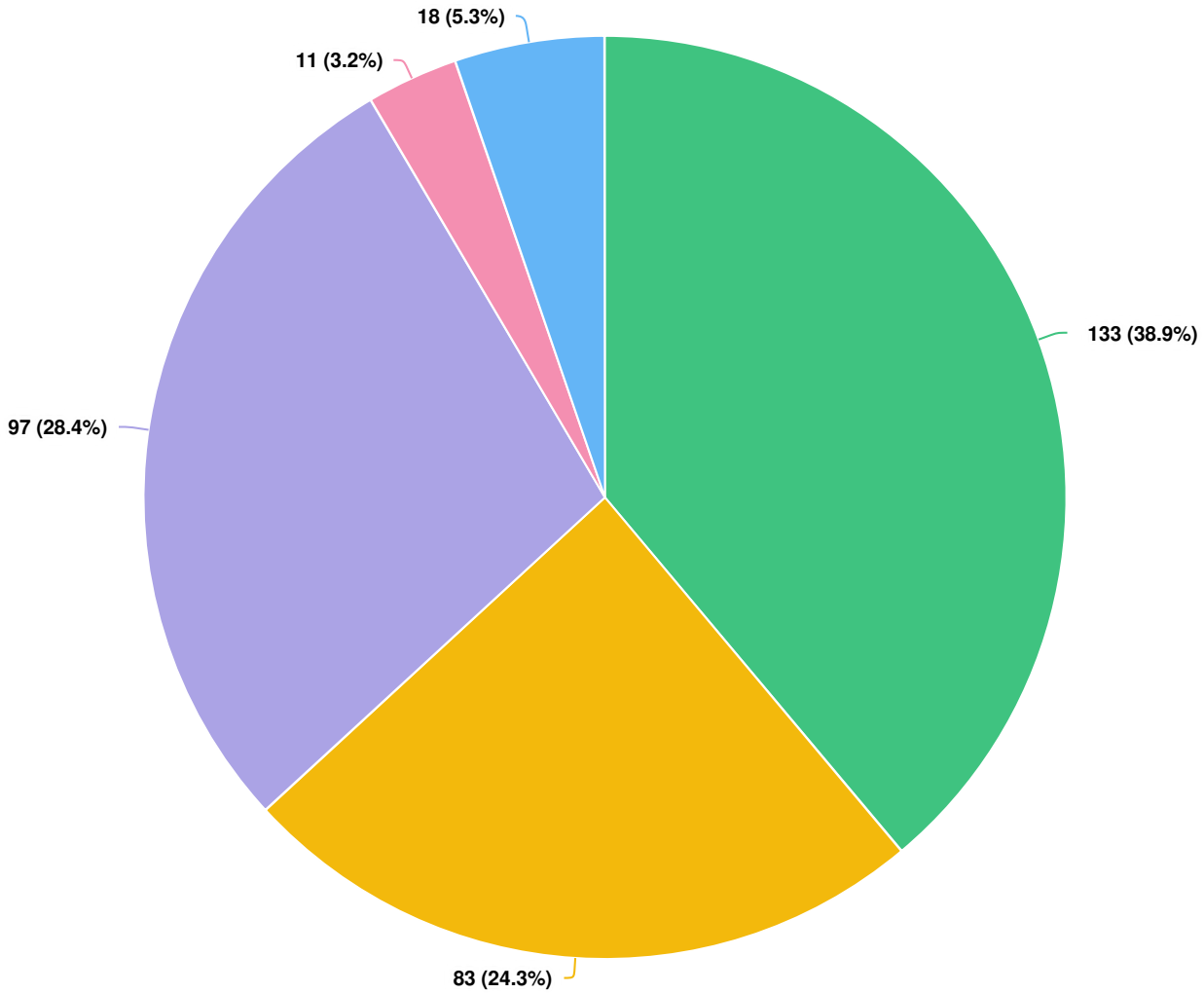


Question options

Yes No Neutral

Optional question (339 response(s), 3 skipped)
Question type: Radio Button Question

Q7 Do you think the City should keep the protected portion of the bike lanes designed as is, revise them, or remove them?

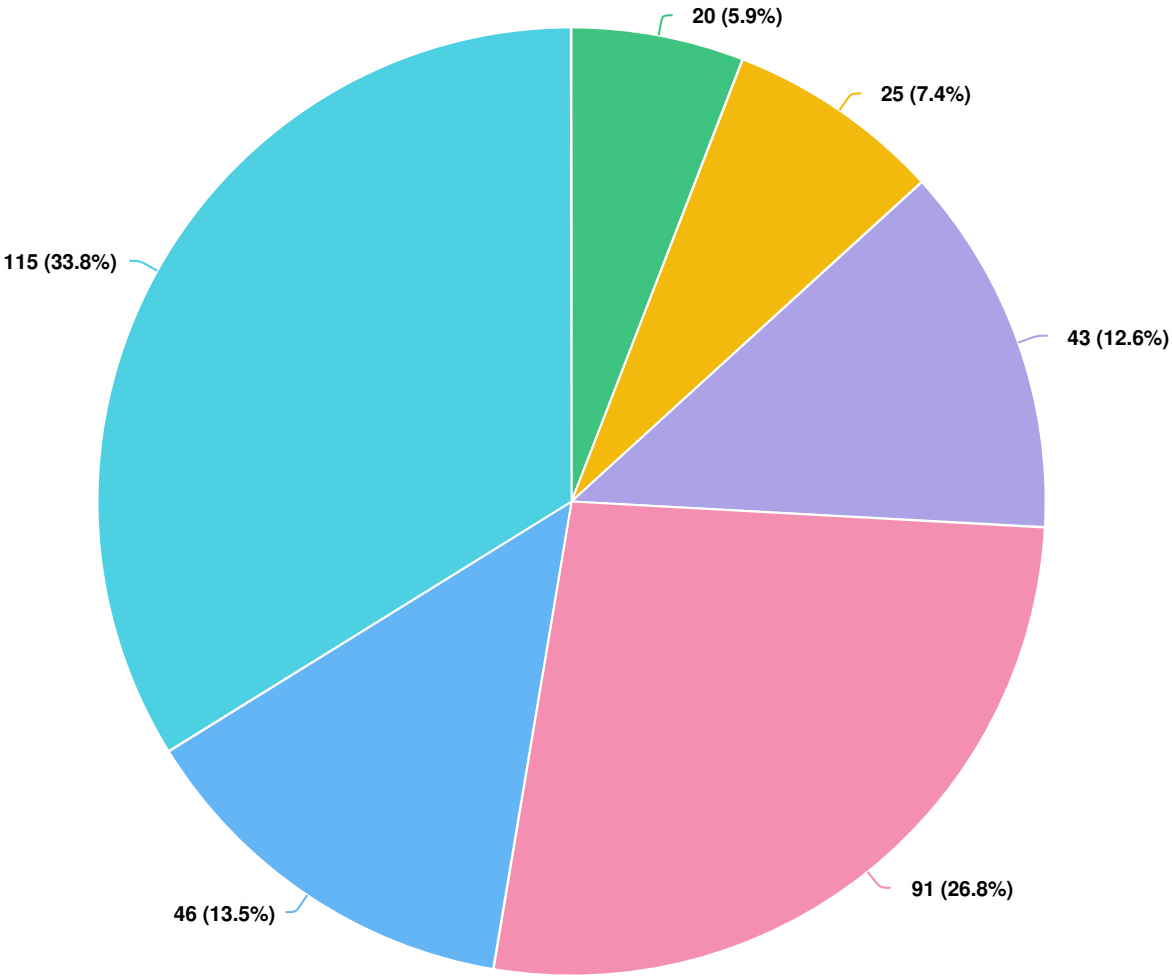


Question options

- The City should keep the protected bikeway as is.
- The City should revise the design of the protected bikeway.
- The City should remove the protected bikeway.
- No opinion.
- Other (please specify)

Optional question (342 response(s), 0 skipped)
Question type: Radio Button Question

Q8 **On a scale of 1-5, with 1 being the LEAST safe and 5 being the MOST safe, please rate how safe and comfortable you feel when you ride this route on South Eton.**

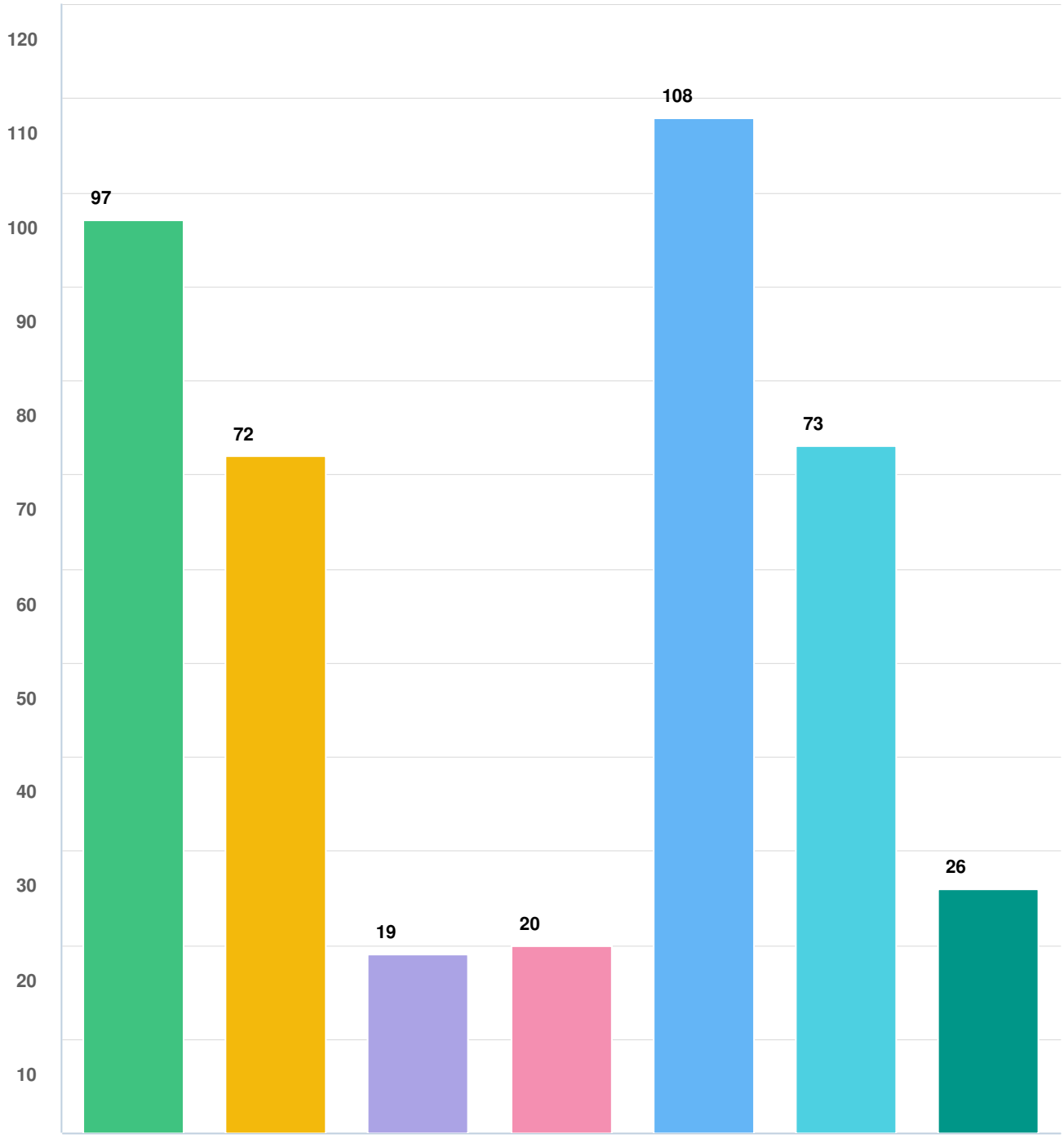


Question options

- 1) I feel very unsafe and uncomfortable riding this route.
- 2) I feel fairly unsafe and somewhat uncomfortable riding this route.
- 3) Neutral, I feel okay riding this route.
- 4) I feel pretty safe and comfortable riding this route.
- 5) I feel extremely safe and comfortable riding this route.
- N/A I do not bike this route.

Optional question (340 response(s), 2 skipped)
Question type: Radio Button Question

Q9 Are there any areas where you feel unsafe along the bike route on South Eton? (Select all that apply.)



Question options

- Between E. Maple and Yosemite (bike sharrow)
- Between Yosemite and Villa (unprotected bike lane)
- Between Villa and Bowers (protected bike lane)
- Between Bowers and Lincoln (protected bike lane)
- N/A I do not bike this route.
- N/A I feel safe biking this route.
- Other (please specify)

Optional question (323 response(s), 19 skipped)
Question type: Checkbox Question

FLEIS&VANDENBRINK
DESIGN. BUILD. OPERATE.

MEMO

VIA EMAIL

From: **Julie M. Kroll, P.E., PTOE**
Ben W. Schebler
Fleis & VandenBrink

Date: **September 30, 2021**

Re: **S. Eton Street Bike Lane Installation**
City of Birmingham, Michigan
Before & After Study

INTRODUCTION

This memorandum presents the methodologies, analyses, and results of the Before & After Study for the S. Eton Street bike lane installation between Yosemite Boulevard and Lincoln Street in the City of Birmingham, Michigan. The scope of this study was developed based on Fleis & VandenBrink's (F&V) knowledge of the study area, information provided by City of Birmingham, accepted traffic engineering practice, and methodologies published by the Institute of Transportation Engineers (ITE).

DATA COLLECTION

The data used in this study was performed prior to May 2019 to evaluate the *Before* conditions without the bike lane installation and the *After* conditions data collection was performed after July 2019. The following data was collected during these analysis periods:

- Crash Data
- Traffic Volumes
- Speed Data

The results before and after analysis for each of these metrics are summarized herein.

Crash Analysis

The crash data used in the study was provided by the Birmingham Police Department. The data includes three (3) years of data before (May 2017 to May 2019) and after (July 2019 to July 2021) the bike lane installation. The crash analysis evaluated three (3) years for both conditions as summarized in **Table 1**. The results of the analysis showed an overall crash reduction of **44%**.

The crashes were evaluated to determine the bike lane impact on the pedestrian/bike crashes and those associated with the driveways (backing) and on-street parking. The results of the analysis show that the pedestrian crashes were eliminated with bike lane addition and the backing crashes were reduced. No crashes associated with parking or bicycles was reported for either the before or after condition. The crashes with injuries were reviewed, and the injuries were reduced by 67% after the bike lane installation as summarized in **Table 2.**

27725 Stansbury Boulevard, Suite 195
Farmington Hills, MI 48334
P: 248.536.0080
F: 248.536.0079
www.fveng.com

Table 1: Crash Analysis Summary Table

Crash Type	Before Condition *No Bike Lane*	After Condition *With Bike Lane*	Difference	% Difference
Misc One (1) Vehicle	0	0	0	0%
Animal	0	0	0	0%
Fixed Object	1	0	-1	-100%
Pedestrian	1	0	-1	-100%
Bicycle	0	0	0	0%
Head On	0	0	0	0%
Head On Left-Turn	0	1	1	100%
Angle	11	11	0	0%
Rear End	12	3	-9	-75%
Sideswipe-Same	10	5	-5	-50%
Sideswipe-Opposite	2	0	-2	-100%
Other Drive	0	0	0	0%
Overturn	0	0	0	0%
Dual Right Turn	0	0	0	0%
Backing	4	3	-1	-25%
Parking	0	0	0	0%
Total	**41**	**23**	**-18**	**-44%**

Table 2: Crash Injury Severity Table

Severity	Worst Injury in Crash (3 Years)			
	Before Condition *No Bike Lane*	After Condition *With Bike Lane*	Difference	% Difference
Fatality	0	0	0.00	0%
Suspected Major Injury (A)	0	0	0.00	0%
Suspected Minor Injury (B)	1	1	0.00	0%
Possible Injury (C)	5	1	-4.00	-80%
Total	**6**	**2**	**-4.00**	**-67%**

Traffic Volumes

Traffic volume data was collected for a period of four (4) hours from 2:00 PM to 6:00 PM during a typical weekday and from 2:00 PM to 6:00 PM on a typical Saturday for the analysis periods. The *Before* data collection was performed in June 2018 and the *After* data was performed in July 2021. Additionally, the Multi-Modal Transportation Board requested AM traffic counts to be performed, therefore volume data includes 7:00 AM to 11:00 AM in July 2021 only. The data collection included vehicle classifications and pedestrian and bike data at the following intersections with S. Eton Street:

- Maple Road
- Villa Road
- Bowers Street
- Lincoln Street
- Sheffield Road

The traffic volume data is summarized in **Table 3** and shows that overall, the entering traffic volumes within the network have *decreased*. This is typical of current traffic volumes which have decreased over pre-COVID conditions. The pedestrian volumes have remained consistent along the corridor, with negligible change. The bicycle volumes have increased significantly with the addition of the bike lane. The bike traffic has more than doubled during the afternoon, and is over 80% higher on Saturday. Although *Before* data is not available in the AM period, the current number of bicycle trips is higher in the morning than in the afternoon before data.

Table 3: Traffic Volume Summary-Total Entering Volumes

Intersection	Type	Weekday 7AM-11AM	Weekday 2PM-6PM				Saturday 2PM -6PM			
		After Condition *With Bike Lane*	Before Condition *No Bike Lane*	After Condition *With Bike Lane*	Difference	% Difference	Before Condition *No Bike Lane*	After Condition *With Bike Lane*	Difference	% Difference
Maple Rd & S. Eton	Vehicles	6,021	8,815	8,313	-502	-6%	6,624	6,658	34	1%
	Peds	20	30	28	-2	-7%	10	17	7	70%
	Bikes	12	14	18	4	29%	35	55	20	57%
	Total	*6,053*	*8,859*	*8,359*	*-500*		*6,669*	*6,730*	*61*	
Villa Rd & S. Eton	Vehicles	2,001	3,858	2,862	-996	-26%	2,409	2,048	-361	-15%
	Peds	55	74	54	-20	-27%	75	52	-23	-31%
	Bikes	*23*	*13*	*26*	13	100%	27	75	48	178%
	Total	*2,079*	*3,945*	*2,942*	*-1,003*		*2,511*	*2,175*	*-336*	
Bowers & S. Eton	Vehicles	1,933	3,800	2,709	-1,091	-29%	2,224	1,904	-320	-14%
	Peds	*39*	*126*	*73*	-53	-42%	110	108	-2	-2%
	Bikes	22	15	29	14	93%	36	88	52	144%
	Total	*1,994*	*3,941*	*2,811*	*-1,130*		*2,370*	*2,100*	*-270*	
Lincoln & S. Eton	Vehicles	*1,379*	4,473	4,267	-206	-5%	2,537	2,006	-531	-21%
	Peds	69	28	109	81	289%	29	57	28	97%
	Bikes	25	16	40	24	150%	39	80	41	105%
	Total	*1,473*	*4,517*	*4,416*	*-101*		*2,605*	*2,143*	*-462*	
Shefield & S. Eton	Vehicles	1,270	2,333	1,852	-481	-21%	1,320	1,206	-114	-9%
	Peds	41	24	23	-1	-4%	29	22	-7	-24%
	Bikes	15	4	16	12	300%	37	20	-17	-46%
	Total	*1,326*	*2,361*	*1,891*	*-470*		*1,386*	*1,248*	*-138*	
Network Total	Vehicles	12,604	23,279	20,003	-3,276	-14%	15,114	13,822	-1,292	-9%
	Peds	224	282	287	5	**2%**	253	256	3	**1%**
	Bikes	97	62	129	67	**108%**	174	318	144	**83%**
	Total	*12,925*	*23,623*	*20,419*	*-3,204*		*15,541*	*14,396*	*-1,145*	

Speed Data Summary

The speed data is summarized in **Table 4** was collected over a period of four (4) days by the Birmingham Police Department in September 2016 and then after the bike lane installation in July 2021. The results of the analysis show that the average change in speed is 1.5 mph and the 85th percentile speed change is 0.2 mph which is negligible. It should also be noted that the traffic volumes have decreased by an average of more than 10% however the average speeds have not increased proportionally to the decrease in traffic volumes.

Table 4: Speed Data Summary Table

Roadway Segment	Before Condition No Bike Lane		After Condition With Bike Lane		Difference	
	85th Percentile	Average Speed	85th Percentile	Average Speed	85th Percentile	Average Speed
Melton Rd to Humphrey Ave	30.0 mph	25.0 mph	31.9 mph	28.3 mph	1.9 mph	3.3 mph
Villa Rd to Hazel St	30.0 mph	25.0 mph	28.5 mph	24.6 mph	-1.5 mph	-0.4 mph
Average	30.0 mph	25.0 mph	30.2 mph	26.5 mph	**0.2 mph**	**1.5 mph**

CONCLUSIONS

The results of this analysis are summarized below and show that addition of the bike lane reduced crashes, increased the number of bicycles, and did not have a significant impact on the adjacent roadway speeds.

Crashes

- The results of the analysis showed an overall crash reduction of 44%.
- The pedestrian crashes were eliminated, and the backing crashes were reduced after the addition of the bike lane. No crashes associated with parking or bicycles were reported.
- The crashes with injuries were reduced by 67% after the addition of the bike lane.

Traffic Volumes

- Vehicle volumes have decreased since the bike lane was installed, however COVID has impacted the volume vehicle traffic on the adjacent roadways and may not be necessarily due to increases in pedestrian and bicycle traffic.
- The pedestrian volumes have remained consistent along the corridor, with negligible change.
- The bicycle volumes have more than doubled during the afternoon and are over 80% higher on Saturday with the addition of the bike lane.

Speed Data

- The corridor speeds have increased on average 1.5 mph and the 85th percentile speeds have increased by only 0.2 mph, which is negligible.
- It should also be noted that the traffic volumes have decreased by an average of more than 10%, however the average speeds have not increased proportional to the decrease in traffic volumes.

RECOMMENDATIONS

It is recommended that a bicycle facility is provided on S. Eton Street and the Multi-Modal Transportation Board consider the permanent design and operations of multi-modal infrastructure on this corridor. The results of this evaluation show that the pilot project successfully increased bicycle activity along the corridor and reduced crashes. Additional areas of focus for future infrastructure include: additional traffic calming measures to reduce speeds, and pedestrian facility enhancements to increase pedestrian activity and enhance safety.

END

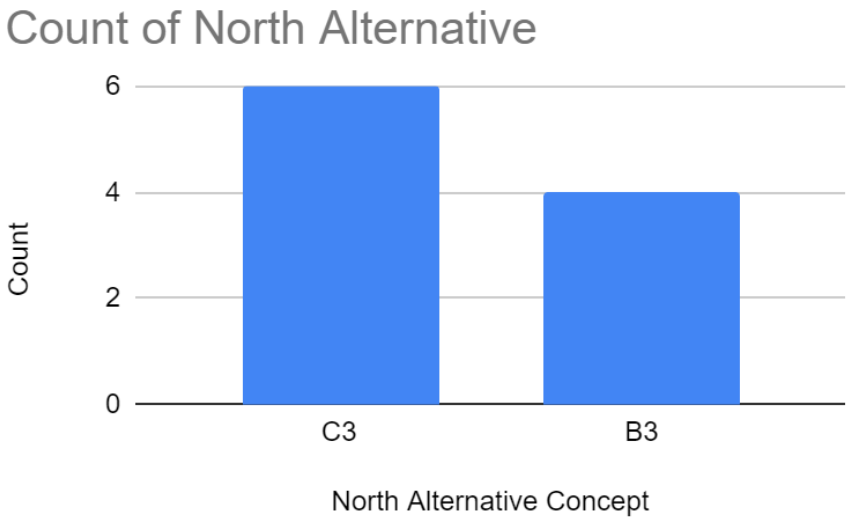
Summary of S. Eton Open House Responses – April 18th, 2023

Comment Cards – Share Your Feedback Responses

- *Need a Concrete buffer to protect bikers and pedestrians*
- *Neighborhood Beautification*
- *Restaurant parking in the Rail District Condo Area. Safety issues existing at Hazel & Villa. Congestion at Hazel, only one car can enter or exit with restaurant traffic.*
- *We the homeowner taxpayers do not want a bike path added to south of Lincoln and 14 Mile*
- *This is an unecessary expense - it will make things much more hazardous to pull out of or drives and will affect our driveway aprons and several trees will be impacted - if the roots are damaged - the trees will die!*
- *Impact on my driveway parking is #1 for me. Safety and removing parking on E side is important to me too. The sewer drain at Eton / Hazel backs up and air is forced up my toilet - this is a reminder.*
- *Parking in front of Griffin Claw & Whistle Stop block turners - very unsafe. Needs to go. Bike lane needs to be one way on each side. Curbs need to not move back. Will hurt the whole neighborhood any other way.*
- *Pro Removing on street parking. Pro bike lanes. Pro anything to slow traffic down to speeds limit on Eton. Pro anything to make walking safer on Eton. Very much against taking our green space - parkland which is used by our neighborhood and putting in parking spaces. This is already dangerous intersection. Adding parking spaces in that intersection is a very bad idea. There are better alternatives for parking on the streets off Eton - also this DPS building has a large parking lot - open it up to public after 5 and on weekends. also the spaces in front of the lumber yard aren't well known to the public.*
- *Eliminate street parking on Eton. No parking in Eton & Lincoln Greenspace*
- *Safety should always be higher priority than so called recomendations for intermodal transportation*
- *Lived in house since 1957. Don't see need for bike path.*
- *"20+ driveways will be altered. Trees lost south of Lincoln. A Walkable Community does not need bike paths."*
- *Bikers don't use bike paths anyways (why bother). Street surface for cars, driving, and parking. Need 4 way stop at S. Eton and Bradford (Dangerous). Pavement/durability- terrible (Spend more here - do it right)*
- *Whatever Alternative that is most cost effective and prioritizes overall safety and walkability.*

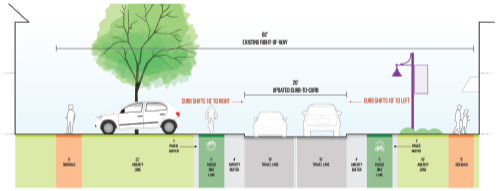
Summary of S. Eton Open House Responses – April 18th, 2023

Comment Cards – Vote Count

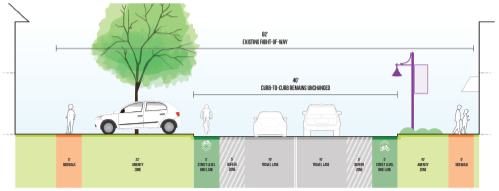


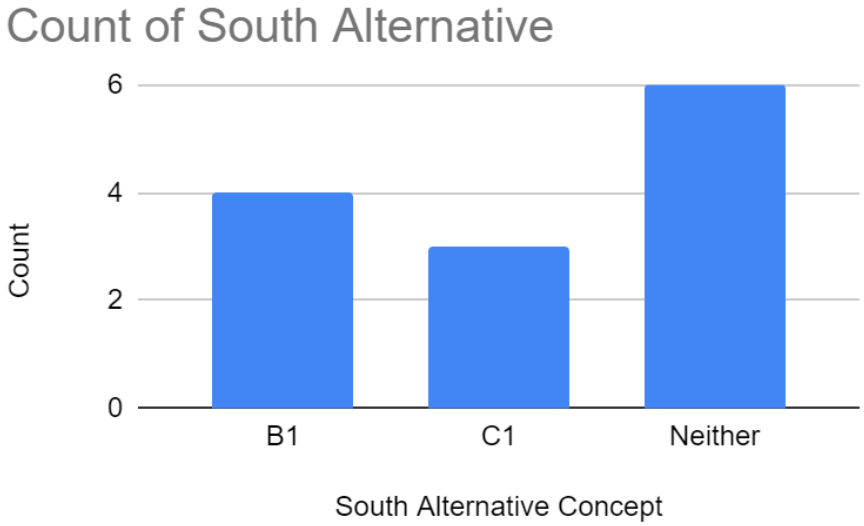
REMOVAL OF ON-STREET PARKING	
CURB MOVES	CURB DOESN'T MOVE
Alternative B3: • Raised Bike Lanes in both directions w/ amenity buffers	Alternative C3: • Street Level Bike Lanes in both directions w/ buffer zones

ALTERNATIVE B3 - RAISED BIKE LANES, BOTH CURBS MOVE



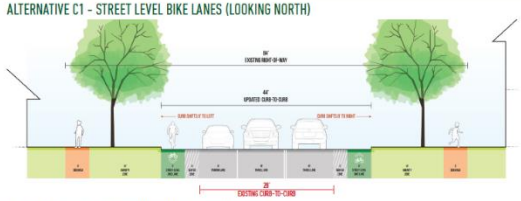
ALTERNATIVE C3 - STREET LEVEL BIKE LANES, NO CHANGE TO CURB



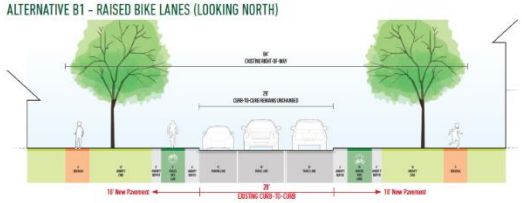


CURB MOVES	CURB DOESN'T MOVE
Alternative C1: • Street Level Bike Lanes in both directions w/ buffer zones	Alternative B1: • Raised Bike Lanes in both directions w/ amenity buffers

ALTERNATIVE C1 - STREET LEVEL BIKE LANES (LOOKING NORTH)



ALTERNATIVE B1 - RAISED BIKE LANES (LOOKING NORTH)



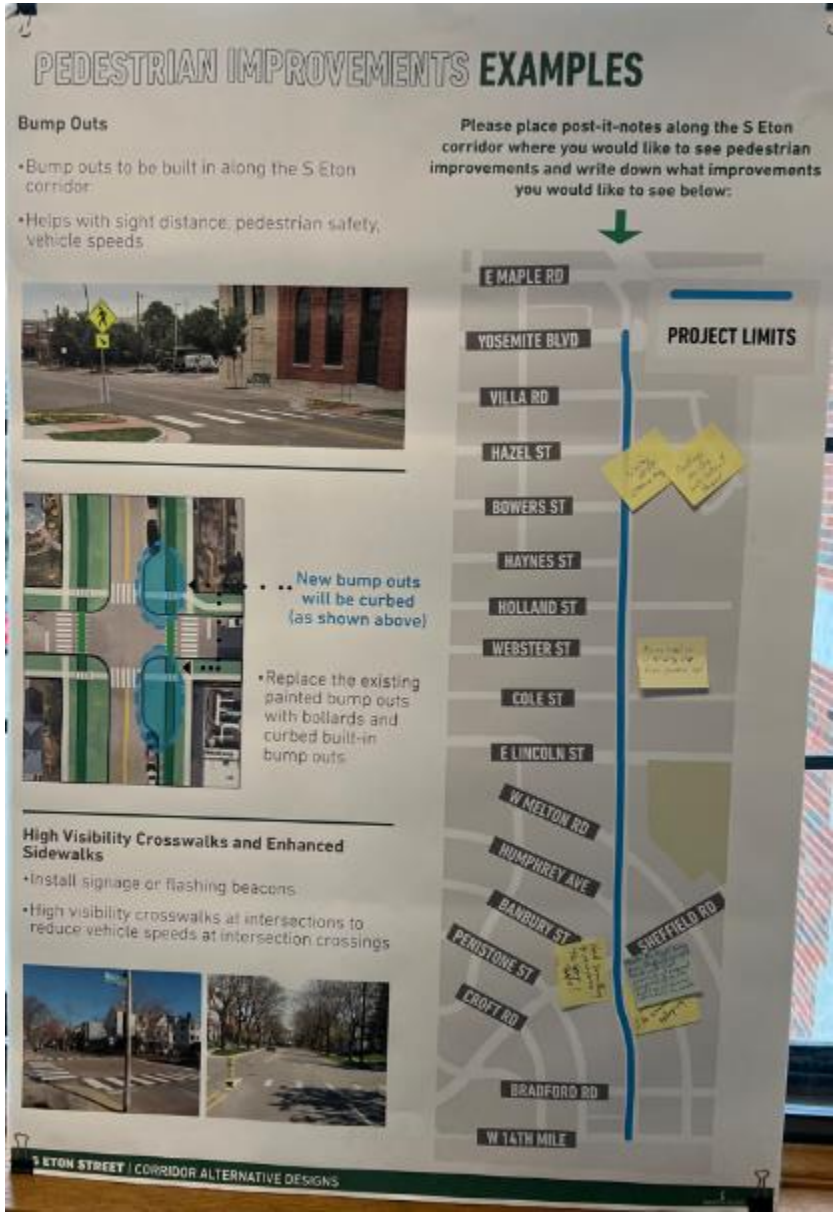
Summary of S. Eton Open House Responses – April 18th, 2023

Pedestrian Improvements

Hazel St
- 4 way stop sign
- Parking on one side of Hazel (east of Eton)

Webster St
- Being used as a 4 way stop from parking lot

Sheffield Rd
- Need Something to reinforce the stop signs
- make right turn onto Sheffield north onto Eton roomier - It is too tight as it is now, especially in winter
-Elevated intersection to encourage stopping



Summary of S. Eton Open House Responses – April 18th, 2023

S. Eton Refined Alternatives Comments

What is the 2' amenity buffer for? (alternative B1)

What is the minimum amenity zone to park a vehicle across?

No parking on-street, bike lanes on both sides

Speed mitigation - employ rumble strips

No bikes south of Eton

No Parking spaces on green space

Cycle track was 4' and 4', why are the new paths now 5'

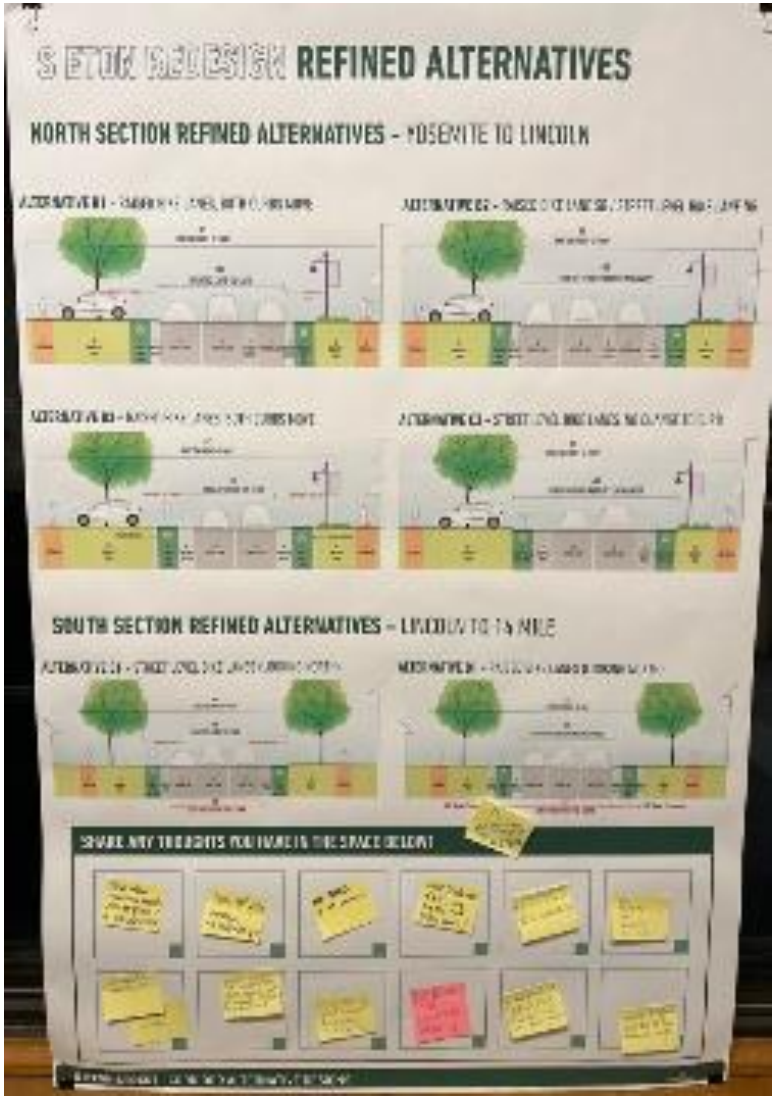
No Bike path Lincoln to 14 Mile

Buffer Zone paint lines - rumble strips

find parking within Rail District - Not in green space

No parking on S. Eton - both sides

Make buffer widths minimum 3'

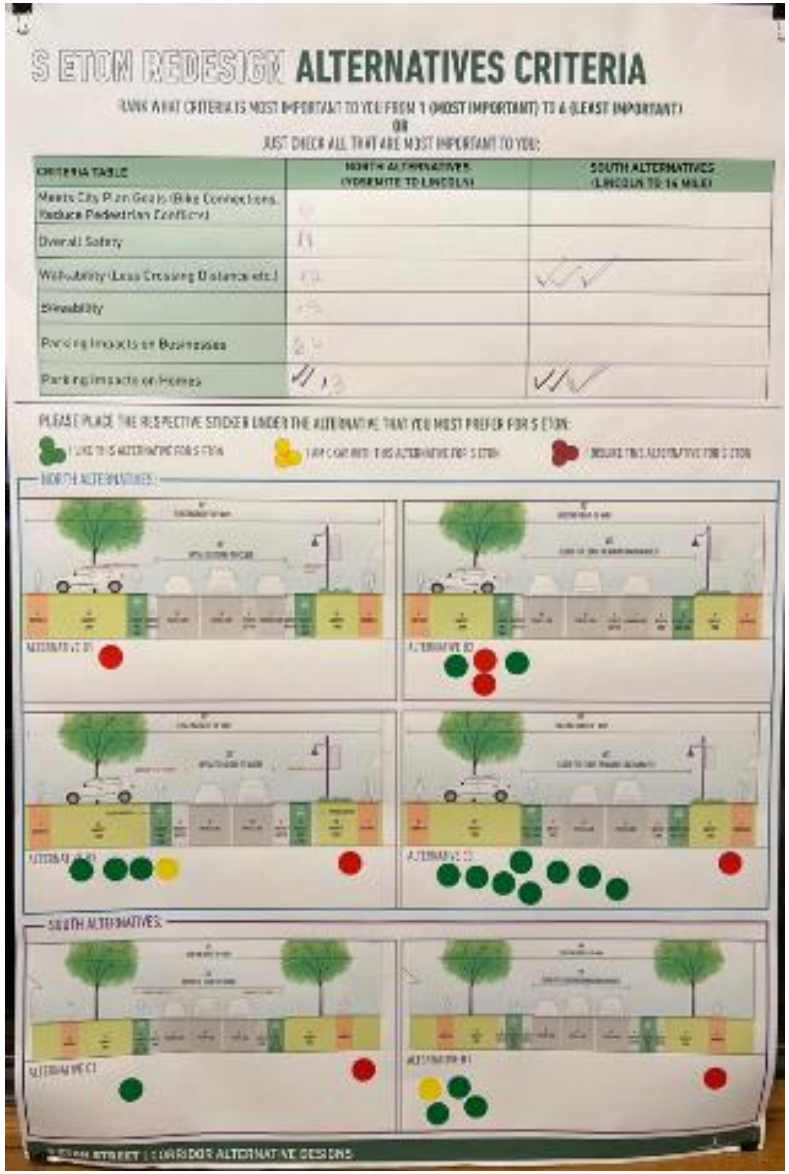


Summary of S. Eton Open House Responses – April 18th, 2023

S. Eton Redesign Alternatives Criteria

North Alternatives	Like	Okay	Dislike
B1			1
B2	2		2
B3	3	1	1
C3	8		1

South Alternatives	Like	Okay	Dislike
B1	3	1	1
C1	1		1



Summary of S. Eton Open House Responses – April 18th, 2023

Bike Lane Separation Options

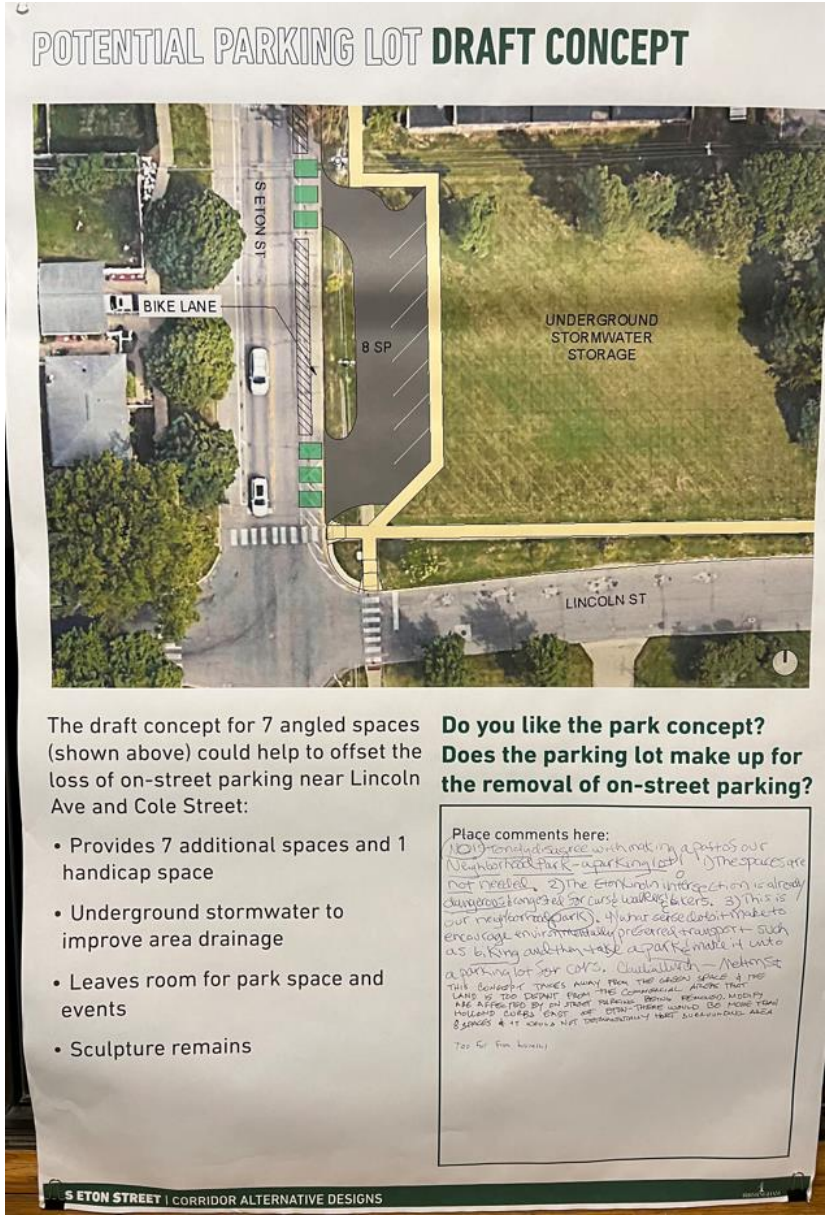
Rumble Strip	
Striped Painted Buffer	
Concrete Spaced Medians	1
Post Barriers with Bumpouts	4
Stamped Concrete	
Colored Concrete	4

Summary of S. Eton Open House Responses – April 18th, 2023

No! Strongly disagree with making a part of our neighborhood park a parking lot. the spaces are not needed. the Eton intersection is already dangerous and congested for cars and walkers and bikers. this is our neighborhood park. what sense does is make to encourage environmentally friendly preferred transport such as biking and then take a park and make it into a a parking lot for cars.

This concept takes away from the green space and the land is too distant from the commercial areas that are affected by on-street parking being removed. modify Holland curbs east of Eton - there would be more than 8 spaces and would not detrimentally hurt surrounding area.

Too far from businesses



Multi Modal Board
Planners
Eton Improvement Committee
City of Birmingham

From; Diane Roach Smith
1494 E Melton Rd

The North East Corner of Lincoln and Eton, (GREEN SPACE)

The Planners went to the park and Recs board and asked them to be amendable to put 8 parking spaces on this GREEN SPACE.

The reason for this action is the parking will be eliminated on one of the plans for the improvement of Eton. These 8 parking spaces on the Green Space seemed very Urgent from Brooks Cowan at the meeting. The residents should not be supplying parking spaces for Commercial Business.

The Engineering Department also wants to make that Green Space an underground retention space.

Why are these 2 changes so Urgent?

The notice to the Parks Board was right after the City Manager talked to residents and the commission in length that there really was not a plan for the GREEN SPACE.

The City needs to take a step back from the Eton Improvement. Why is the City investing millions of TAX dollars into re-doing Eton road, when MANY of the city neighborhood streets are crumbling. Residents are being asked to pay for these crumbling roads. The City should be taking care of the Residents, spending the Tax dollars on infrastructure that benefits the Home Owners.

I am asking the Commission, City Planner, Multi Modal Board and any other entity involved keep the NE corner of Lincoln and Eton a GREEN SPACE no parking spaces and please no cutting down of our cities trees.

Multi Modal Board
Planners
Eton Improvement Committee
City of Birmingham

From; Diane Roach Smith
1494 E. Melton Rd

Birmingham needs To Step Back from the Improvement of Eton.

There are some very easy and inexpensive improvements to Eaton that would help with City safety, mobility and walkability. The last 2 improvements on Maple and Old Woodward, are not in my opinion an improvement for the neighborhoods or the homeowners.

Our City does not need more trees cut down and more cement laid down. Our existing city streets in the neighborhoods and the connectors such as Lincoln. NEED REAL IMPROVEMENT.

I can no longer ride my bike safely around the East or West side of the city. The Roads are too bad up heaved and huge pot holes. This is dangerous to cars pedestrian's as well as Cyclist.

I moved here because I could ride or walk to many places including my families and my work, I now have to use my car.

Please spend funds on existing issues in the city and not new projects. We recently set up a sustainability board. More cement and tree removal is not good for the environment and not good for the Tory Area.

Eaton has a traffic issue and the plans for the Eton improvement in my opinion are not addressing that key issue. The Maple improvement did not help flow of traffic and it did not help pedestrians either. Maple has less trees more cement and the end goal was not accomplished.

Trucks are not supposed to go on Eton, so they drive down Melton instead. This is an on going issue and Melton is a very busy street with residents walking, children walking, people walking dogs, People leisurely riding their bikes. Semi-trucks driving in our neighborhood is not safe to our non-vehicle mobility. Please address this issue.

Please pause on the Huge Eton improvement, please make a revised less expensive plan for Eton Safety. Traffic Lights reflectors along the bike path and green paint on the bike path like in other cities. This continuous huge spending has to stop. The City Boards and Departments need to get together and communicate and help each other with better solutions, that do not include what has already happened under the guise of improvement of Old Woodward and Maple. This should not be the example of Birmingham moving forward.

BIRMINGHAM
A WALKABLE CITY

Brooks Cowan <bcowan@bhamgov.org>

South Eton Resurfacing Project

1 message

Gary Saretsky <GSaretsky@saretsky.com> Fri, Apr 28, 2023 at 11:29 AM
To: "BCowan@bhamgov.org" <BCowan@bhamgov.org>

Hi Brooks –

This confirms our telephone call yesterday.

I'm in receipt of the City's April 11, 2023 letter regarding the possibility of removing on-street parking on the east side of the street to install a northbound bike lane.

Our office is located at the northeast corner of South Eton and Cole (one block north of Lincoln). There are already two-directional (north-south) bike lanes on the west side of South Eton. I'm not sure if the City has conducted a usage study, but those bike lanes appear to us to be rarely (if ever) used.

I've informally canvassed our adjacent neighbors on South Eton, and we agree that the elimination of on-street parking in front of our businesses is, under the circumstances, unnecessary and would create a significant inconvenience to and work a hardship upon our customers. It would also complicate and increase traffic congestion on an already busy street and present an unnecessary health risk to bikers and pedestrians.

Therefore, we respectfully request that the City preserve on-street parking on the east side of South Eton. Thank you for your consideration.

Gary

SARETSKY HART MICHAELS + GOULD attorneys

Gary Saretsky
Attorney
T: 248.502.3300 | **F:** 248.502.3301

995 South Eton St.
Birmingham, Michigan 48009

www.saretsky.com

BIRMINGHAM
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Brooks Cowan <bcowan@bhamgov.org>

Eton Street Feedback

1 message

Ryan Tate <ryan.c.tate@gmail.com> Fri, Jan 27, 2023 at 5:39 PM
To: Brooks Cowan <bcowan@bhamgov.org>
Cc: Marci Hensley <marcihensley@hotmail.com>

Brooks,

Thanks again for taking time to answer our questions regarding the upcoming Eton St. construction project, it is much appreciated!

We live at the NW corner of Eton and Hazel, and as the parents of two young children, Eton St. safety has always been a concern. We both work from home and have seen/heard our fair share of honking horns, squealing tires, and people parking/driving in the bike lanes. We are in full support of making changes to slow traffic and make crossing Eton St. safer for all. Here are a few highlights of our concerns (beyond the speed of traffic), mainly focused on the Eton/Hazel intersection.

a. When crossing the street with cars parked in front of Whistle Stop, in order to properly see both ways (crossing to the West), we need to basically be in the traffic lane. I know others have raised the sight line concern, but we want to voice that as well.

b. The lighting in a number of areas is poor at night. This includes the Eton crossing in front of Whistle Stop and the crossing between Whistle Stop and Griffin Claw. Given the poor lighting and speed of traffic, it is difficult to safely navigate with small children.

Specific to the plans proposed, we do want to raise some awareness regarding a couple of items. We know the sketches are preliminary and full dimensions have not been worked out, but based on what we have seen and discussed, we would like to mention two items.

a. Trees on the West side of the street: In some of the plans, it looks like all of the trees would need to be removed in order to accommodate the new placement of bike lane(s). We love the big trees (especially given the East side doesn't have many). Removing old trees would be a shame. We know the city typically aims to preserve trees, but the Alt A & Alt B plans appear to be close to the trees.

b. Driveway depth: Given our driveway enters off Eton (and most driveways from Villa down to Lincoln), the movement of the curb or placing bike lanes in the "right-of-way" will prevent us from parking in our driveways without blocking either the sidewalk or the bike lane. Most of us do not have enough space between the sidewalk and the garage to park a car, so the alternative is to park between the sidewalk and the curb. We would ask that the consultants, project team, and MMTB consider this as they are refining the plan. When additional information is available on dimensions, can you please let me know?

We are huge supporters of improvements and the development of the Rail District, including the addition of more shops and restaurants (e.g. Lincoln Yards). We don't mind change at all, but we would ask that the items noted above are

considered during future revisions of the plan.

If you could please include this in the MMTB packet for next week, it would be appreciated.

Thanks,

Ryan Tate & Marci Hensley

1999 Hazel St.

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Brooks Cowan <bcowan@bhamgov.org>

South Eton Bike Lanes

1 message

Marc Sunday <marcsunday@comcast.net> Thu, Apr 20, 2023 at 10:30 AM
To: bcowan@bhamgov.org, mcoatta@bhamgov.org, rkearney@bhamgov.org

Good morning- While I was not able to attend Tuesday's meeting about this, I wanted to make my vote part of the public record. The letter I received did not provide an option to vote against the plans to put a bike lane south of Lincoln, rather only provided alternatives C1 and B1. I live on Eton and do NOT want bike lanes at all. Cyclists in Birmingham do not even use the bike lanes that exists today on Eton and choose to ride in the road with the cars. I do NOT want 10 additional feet of my yard tore up for a bike lane.

Respectfully,
Marc Sunday
1668 South Eton
Birmingham, MI 48009

Sent from my iPhone

BIRMINGHAM
A WALKABLE CITY

Brooks Cowan <bcowan@bhamgov.org>

Re: Eton Review, 4/18/23

2 messages

Nicholas Dupuis <ndupuis@bhamgov.org> Wed, Apr 19, 2023 at 5:05 PM
To: Romel Llarena <rdllarena@yahoo.com>
Cc: Brooks Cowan <bcowan@bhamgov.org>, Melissa Coatta <mcoatta@bhamgov.org>

Thank you very much for the positive feedback. I have copied Brooks Cowan and Melissa Coatta (at least one of which you may have met at the open house) so that they may share your comments and the link with the Multi Modal Transportation Board!

On Wed, Apr 19, 2023 at 9:46 AM Romel Llarena <rdllarena@yahoo.com> wrote:

> Dear Mr. Dupuis,
>
> A big THANK YOU to the team that presented yesterday. I find these meetings informative and the community input refreshing. I was taken aback by one neighbor's comments about protecting home values and the negative impacts of bike paths. As someone who uses the bike paths regularly, besides the exercise I find I can get to my local destinations from Cole St to say Whole Foods several minutes faster than by taking a car. Once less car on the road and parking lots means less congestion. Further, I feel the paths and a bike network extending beyond Birmingham makes living here even more attractive and helps justify paying a premium, hence increased home resale value. It seems there are studies that support not only the health and traffic benefits, but also higher value, Better bikeways associated with higher home values | Transportation Research and Education Center
>
> **Better bikeways associated with higher home values | Transportation Rese...**
>
> Thank you for your time. I look forward to the follow-up meetings.
>
> Sincerely,
>
> Romel Llarena

--

Nicholas J. Dupuis
Planning Director

Email: ndupuis@bhamgov.org
Office: 248-530-1856
Social: Linkedin

Important Note to Residents
Let's connect! Join the Citywide Email System to receive important City updates and critical information specific to your neighborhood at www.bhamgov.org/citywideemail.

Romel Llarena <rdllarena@yahoo.com> Wed, Apr 19, 2023 at 5:13 PM
To: Nicholas Dupuis <ndupuis@bhamgov.org>
Cc: Brooks Cowan <bcowan@bhamgov.org>, Melissa Coatta <mcoatta@bhamgov.org>

Maybe a question the group won't be able to answer, but I thought I'd try. During the meeting I learned the old Big Rock building has a new owner. Any insight on the owner and their plans for the property?

Thank you again.

Romel

Sent from my mobile phone.

On Apr 19, 2023, at 5:05 PM, Nicholas Dupuis <ndupuis@bhamgov.org> wrote:

[Quoted text hidden]

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A WALKABLE CITY

Ryan Kearney <rkearney@bhamgov.org>

Assigned: Report a Concern

1 message

noreply@govpilot.com <noreply@govpilot.com> Tue, Jan 31, 2023 at 10:11 AM
To: admin@govpilot.com, sgrewe@bhamgov.org, gmoody@bhamgov.org, mclemence@bhamgov.org, gwald@bhamgov.org, mfairbairn@bhamgov.org, mgamboa@bhamgov.org, rkearney@bhamgov.org

City of Birmingham
Report a Concern

Reference #: RAC-2023-00040
Date Entered: 1/31/2023 10:08:00 AM

Admin
Source Type: GovAlert
Department Assigned: Police
Date In Progress:
Date Closed:

Concern Details
Type: Signs
Description: This crosswalk is highly utilized by families, but vehicles rarely stop for pedestrians. Rather, most vehicles appear to travel above the speed limit. A sign signaling that vehicles must stop for pedestrians in crosswalk would be immensely helpful. Pedestrian traffic is very high due to walkability from homes to restaurants, such as Whistelstop and Griffin Claw, parks, and business on Cole street.
Address: N/A
Address 2:
City: N/A

Complainant Details
Name: Alex Jerome
Phone # (248) 417-6833
Email: asjerome@gmail.com

Log in to **GovPilot** to process.

From: Scott LePage <slepage@griffinclaw.com>
Sent: Wednesday, November 16, 2022 5:31 PM
To: Rkearney@bhamgov.org
Subject: Palmer & Eton

Pulling out from Palmer onto Eton has proven increasingly difficult. This area poses a safety threat to drivers and pedestrians as the visibility is low due to the parking spots on the East side of Eton. when attempting to pull out from Palmer onto Eton the driver has to inch forward in order to view oncoming traffic past the parked vehicles. By the time you are able to see clearly you are already in oncoming traffic. There have been accidents and near accidents in this spot as before you can see the oncoming traffic the driver is already inched out too far in an attempt to see if there is traffic heading North on Eton. There are constant horns beeping, and quick braking. Eton can prove to be a busy road and the low visibility due to parked cars is a constant safety issue. Summer months with people walking is a huge concern especially at dusk or night when the visibility is terrible because of minimal light.

I would like to see more lighting or some sort of flashing crosswalk to slow the traffic down. Not sure how to help the visibility issue other than removing parking spots on Eton to the north and south of Palmer.

Scott LePage

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A WALKABLE CITY

Ryan Kearney <rkearney@bhamgov.org>

Re: MMTB S. Eton planning requests

3 messages

Nicholas Dupuis <ndupuis@bhamgov.org> Thu, Jan 19, 2023 at 12:59 PM
To: Jacqueusi <jacqueusi@yahoo.com>
Cc: Scott Grewe <Sgrewe@bhamgov.org>, Ryan Kearney <RKearney@bhamgov.org>, Brooks Cowan <bcowan@bhamgov.org>, Melissa Coatta <mcoatta@bhamgov.org>

Hello Romel, thanks for the good feedback. I am glad you made it to the open house.

I have taken this opportunity to copy all of the other relevant departments that work with the Multi Modal Transportation Board to discuss/resolve issues such as this. By doing this, I am hoping that they can include this in the next MMTB packet for discussion as this project progresses.

On Thu, Jan 19, 2023 at 12:20 PM Jacqueusi <jacqueusi@yahoo.com> wrote:

Dear Mr. Dupuis,

Happy New Year to you and yours!

I first wanted to thank the City of Birmingham and the MMTB team for the most recent Open House as well as the changes that have already been instituted and planned for the S. Eton corridor. The hard work and planning isn't done yet and I wanted to take this chance to share a concern regarding the intersection of Cole St. and Eton. As you may well know, there is a residential side of Cole St and a commercial side. I believe the commercial traffic on Cole makes it one of the most used streets and intersections of the corridor. While the commerce is most welcome, the dangerous traffic is not. I can think of at least three accidents in the past few years that I've witnessed at the intersection, and as a local resident who frequents that intersection, I believe line of sight is one of the causes.

Paper napkin math, in the attached photos and video, when crossing Eton from East Cole St to West Cole St, line of sight can be obscured by parked cars. Counting 17 sidewalk squares at 4' each, the distance from where the photo and videos was taken to the tree in the background is approximately 75'. With Eton traffic traveling at 25 MPH that leaves 2 seconds to safely making the crossing and oftentimes during the day the view is obstructed as demonstrated in the photos. My suggestion is to increase the No Parking zone on the E side to allow for better line of sight visibility. In addition I would like to suggestion the city clearly mark the speed limit on Eton as I don't recall seeing more than 1-2 signs. Excessive speeds contributes to the great difficulty of accessing S. Eton from the neighbor as there is not enough gaps and reaction time to merge from say West side of Cole St onto South bound of S. Eton. I do feel the temporary 25 MPH sign near the intersection on S. Eton near Lincoln is a model of effectiveness.

I regret due to time constraints I can't dedicate more analysis to this, but I have faith the City planners with the neighborhood's input will do this right.

Thank you.

Romel Llarena

<1674147088865blob.jpg>

--
Nicholas J. Dupuis
Planning Director

BIRMINGHAM
A WALKABLE CITY

Ryan Kearney <rkearney@bhamgov.org>

Almost forgot

1 message

Jacqueusi <jacqueusi@yahoo.com> Tue, Mar 21, 2023 at 1:37 PM
To: "rkearney@bhamgov.org" <rkearney@bhamgov.org>

Not enough speed limit signs on Eton. Driver's that are not from the neighborhood haven't a clue that Eton is 25 MPH.

Thank you.

Romel

Speed Distance Time Calculator

Choose a Calculation

then enter the known values below

Solve for Time

time = distance/speed

distance = 75 ft

speed = 25 mi/h (mph)

time = *(answer units)* hr

Clear

Calculate

Answer:

time = 0.000568182 hours

= 0.000568182 h

= 00:00:02

= 0 hours, 0 minutes, 2 seconds

BIRMINGHAM
A WALKABLE CITY

Brooks Cowan <bcowan@bhamgov.org>

Eton Street Feedback

1 message

Ryan Tate <ryan.c.tate@gmail.com> Fri, Jan 27, 2023 at 5:39 PM
To: Brooks Cowan <bcowan@bhamgov.org>
Cc: Marci Hensley <marcihensley@hotmail.com>

Brooks,

Thanks again for taking time to answer our questions regarding the upcoming Eton St. construction project, it is much appreciated!

We live at the NW corner of Eton and Hazel, and as the parents of two young children, Eton St. safety has always been a concern. We both work from home and have seen/heard our fair share of honking horns, squealing tires, and people parking/driving in the bike lanes. We are in full support of making changes to slow traffic and make crossing Eton St. safer for all. Here are a few highlights of our concerns (beyond the speed of traffic), mainly focused on the Eton/Hazel intersection.

a. When crossing the street with cars parked in front of Whistle Stop, in order to properly see both ways (crossing to the West), we need to basically be in the traffic lane. I know others have raised the sight line concern, but we want to voice that as well.

b. The lighting in a number of areas is poor at night. This includes the Eton crossing in front of Whistle Stop and the crossing between Whistle Stop and Griffin Claw. Given the poor lighting and speed of traffic, it is difficult to safely navigate with small children.

Specific to the plans proposed, we do want to raise some awareness regarding a couple of items. We know the sketches are preliminary and full dimensions have not been worked out, but based on what we have seen and discussed, we would like to mention two items.

a. Trees on the West side of the street: In some of the plans, it looks like all of the trees would need to be removed in order to accommodate the new placement of bike lane(s). We love the big trees (especially given the East side doesn't have many). Removing old trees would be a shame. We know the city typically aims to preserve trees, but the Alt A & Alt B plans appear to be close to the trees.

b. Driveway depth: Given our driveway enters off Eton (and most driveways from Villa down to Lincoln), the movement of the curb or placing bike lanes in the "right-of-way" will prevent us from parking in our driveways without blocking either the sidewalk or the bike lane. Most of us do not have enough space between the sidewalk and the garage to park a car, so the alternative is to park between the sidewalk and the curb. We would ask that the consultants, project team, and MMTB consider this as they are refining the plan. When additional information is available on dimensions, can you please let me know?

We are huge supporters of improvements and the development of the Rail District, including the addition of more shops and restaurants (e.g. Lincoln Yards). We don't mind change at all, but we would ask that the items noted above are

considered during future revisions of the plan.

If you could please include this in the MMTB packet for next week, it would be appreciated.

Thanks,

Ryan Tate & Marci Hensley

1999 Hazel St.

BIRMINGHAM
A WALKABLE CITY

Brooks Cowan <bcowan@bhamgov.org>

Re: MMTB S. Eton planning requests

Nicholas Dupuis <ndupuis@bhamgov.org> Thu, Jan 19, 2023 at 12:59 PM
To: Jacqueusi <jacqueusi@yahoo.com>
Cc: Scott Grewe <Sgrewe@bhamgov.org>, Ryan Kearney <RKearney@bhamgov.org>, Brooks Cowan <bcowan@bhamgov.org>, Melissa Coatta <mcoatta@bhamgov.org>

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> Romel Llarena
>
> <1674147088865blob.jpg>

--
Nicholas J. Dupuis
Planning Director

Email: ndupuis@bhamgov.org
Office: 248-530-1856
Social: Linkedin

Important Note to Residents
Let's connect! Join the Citywide Email System to receive important City updates and critical information specific to your neighborhood at www.bhamgov.org/citywideemail.

BIRMINGHAM
A WALKABLE CITY

MEMORANDUM

Planning Division

DATE: April 28th, 2023

TO: Multi-Modal Transportation Board

FROM: Brooks Cowan, Senior Planner
Ryan Kearney, Police Lieutenant
Melissa Coatta, Engineering Department
With assistance from:
Brad Strader, MKSK
Julie Kroll, Fleis & Vandenbrink

SUBJECT: Adams Road - Road Diet Study - DRAFT

Adams Road is scheduled for resurfacing in the summer / fall of 2024. The City of Birmingham is considering the reconfiguration of the existing 4 lane road on the N. Adams corridor between the northern City limits and the existing 3-Lane section at Madison Street. The City's traffic consultant Fleis & Vandebrink was directed to conduct a Road Diet Study and present its results.

Attached is a DRAFT road diet study of Adams Road for the Multi-Modal Transportation Board to review and provide commentary on.

FLEIS&VANDENBRINK
DESIGN. BUILD. OPERATE.

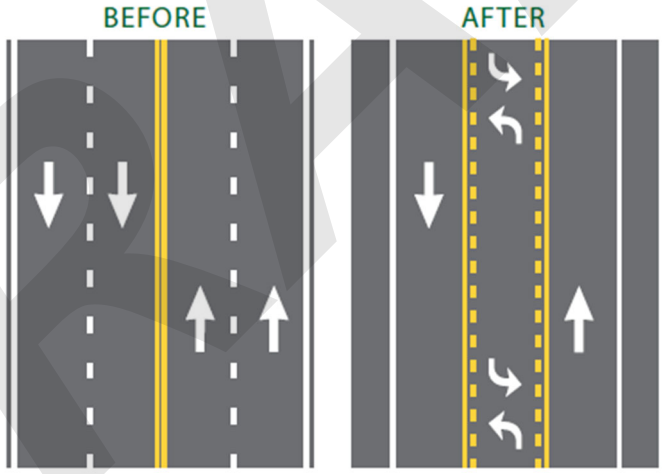
MEMO

VIA EMAIL cityengineer@bhamgov.org

To:	**Ms. Melissa Coatta** **City Engineer, Birmingham, MI**
From:	**Julie Kroll, PE, PTOE** **Mary Ollis, EIT** **Fleis & VandenBrink**
Date:	**April 27, 2023**
Re:	**Road Diet Study** **Adams Road – Buckingham Avenue to Abbey Street** **City of Birmingham, Michigan**

1 INTRODUCTION

This memorandum presents the results of the Road Diet Traffic Study for the Adams Road corridor through the City of Birmingham, Michigan. A Road Diet is a term used to describe a reduction in through traffic lanes. The most common road diet is a 4-lane to 3-lane conversion, where two (2) through lanes in each direction are converted to with one (1) through lane of travel in each direction and a center two-way left-turn lane (TWLTL).



The City of Birmingham is considering the reconfiguration of the existing 4-lane road on the N. Adams Road corridor, between the north City Limits and the existing 3-Lane section at Madison Street. The primary goal of the proposed road diet is to improve safety and reduce traffic crashes along the study corridor. The project location and study limits are shown on the attached **Figure 1** and a depiction of the existing roadway configuration is shown on **Exhibit 1**. Additional roadway information is summarized in **Table 1**.

Table 1: Existing Roadway Information

N. Adams Road (N. City Limits to Madison Street)	
Average Daily Traffic (2019)	13,756 vpd
Functional Classification	Other Principal Arterial
Posted Speed Limit	25 mph

27725 Stansbury Boulevard, Suite 195
Farmington Hills, MI 48334
P: 248.536.0080
F: 248.536.0079
www.fveng.com

Exhibit 1: Existing N. Adams Road Geometry

This study has been completed to examine the traffic operations, roadway capacity, safety, and geometric needs of the corridor, including the following study intersections:

1. Adams Road & Abbey Street
2. Adams Road & Wimbleton Drive
3. Adams Road & Mohegan Street / Derby Road
4. Adams Road & Kennesaw Street
5. Adams Road & Rivenoak Street
6. Adams Road & Westboro Drive
7. Adams Road & Madison Street
8. Adams Road & Buckingham Avenue

The study includes the evaluation of the existing intersections operations, including a review of potential safety improvements, signal timing optimization along Adams Road, geometric improvements, and other measures that would be effective in improving the operations along the roadway corridor. The study analyses were completed using Synchro and SimTraffic (Version 11) traffic analysis software.

2 Data Collection

The existing weekday turning movement traffic volume data were collected by F&V subconsultant Quality Counts, LLC (QC) on Wednesday, March 22, 2023. Intersection Turning Movement Counts (TMC) were collected during the weekday AM (7:00 AM to 9:00 AM), MD (11:00 AM to 1:00 PM), School PM (2:00 PM to 4:00 PM), and PM (4:00 PM to 6:00 PM) peak periods at all of the study intersections. The data collection included Peak Hour Factors (PHFs), pedestrian and bicycle volumes, and commercial truck percentages, which were used in the analysis in accordance with MDOT Electronic Traffic Control Devices guidelines. The overall peak hours of the corridor were utilized and through volumes were carried along the main study roadways and were balanced upwards through the study roadway network, in accordance with MDOT guidelines. Therefore, the traffic volumes utilized in the analysis and shown on the attached traffic volume figures may not match the raw traffic volumes shown in the data collection.

F&V collected an inventory of existing lane use and traffic controls, as shown on the attached **Figure 2**. Additionally, Additionally, F&V obtained the current signal timing permits for the signalized study intersections from the Road Commission for Oakland County (RCOC). The existing 2023 peak hour traffic volumes used in the analysis are shown on the attached **Figure 3**. All applicable background data referenced in this memorandum is attached.

3 Operational Analysis

The City of Birmingham is evaluating the 4-Lane to 3-Lane Road Diet for section of the N. Adams Road corridor, between the north City Limits and the existing 3-Lane section at Madison Street. This evaluation included the following analyses:

Existing Conditions (2023)	Road Diet (2023)	Road Diet (2043)
•Existing Traffic Volumes •4-Lanes •Existing Geometry	•Existing Traffic Volumes •3-Lanes •Proposed Geometry	•Horizon Year Traffic Volumes •3-Lanes •Proposed Geometry

The purpose of this analysis is to determine the feasibility of a road diet for this study corridor and to determine what improvements, if any, are recommended to accommodate such a road diet.

3.1 Existing (2023) Conditions Analysis

Existing peak hour vehicle delays and Levels of Service (LOS) were calculated at the study intersections using Synchro (Version 11) traffic analysis software. This analysis was performed based on the existing peak hour traffic volumes shown on the attached **Figure 3**, the existing lane use and traffic control shown on the attached **Figure 2**, and the methodologies presented in the *Highway Capacity Manual 6th, Edition* (HCM6).

Typically, LOS D is considered acceptable, with LOS A representing minimal delay, and LOS F indicating failing conditions. Additionally, SimTraffic network simulations were reviewed to evaluate network operations and vehicle queueing throughout the study roadway network. The results for the existing conditions analysis are attached and summarized in **Table 2**.

Table 2: Existing Geometry (4-Lanes) Intersection Operations

Intersection		Control	Approach	Existing Conditions (2023)							
				AM Peak		MD Peak		School Peak		PM Peak	
				Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS
1	Adams Road & Abbey Street	Stop (Minor)	EB	20.3	C	14.4	B	15.8	C	15.8	C
			NBL	9.6	A	8.8	A	8.6	A	8.9	A
			SB	Free		Free		Free		Free	
2	Adams Road & Wimbleton Drive	Stop (Minor)	EB	17.9	C	15.8	C	14.5	B	18.1	C
			WB	9.9	A	20.6	C	9.8	A	13.9	B
			NBL	9.5	A	8.7	A	8.6	A	8.8	A
			SBL	8.5	A	8.6	A	8.4	A	8.6	A
3	Adams Road & Mohegan Street / Derby Road	Signalized	EB	25.9	C	28.1	C	17.7	B	27.6	C
			WBL	31.6	C	30.6	C	17.8	B	28.5	C
			WBTR	31.2	C	32.1	C	18.2	B	29.6	C
			NBTL	0.5	A	0.4	A	1.3	A	0.4	A
			NBTR	0.5	A	0.5	A	1.2	A	0.5	A
			SBTL	10.3	B	7.2	A	14.5	B	7.3	A
			SBTR	10.8	B	7.3	A	14.8	B	7.4	A
			Overall	**12.4**	**B**	**8.7**	**A**	**8.9**	**A**	**6.5**	**A**
4	Adams Road & Kennesaw Street / Derby Middle Parking Lot	Stop (Minor)	EB	26.9	D	18.2	C	16.2	C	18.0	C
			WB	21.4	C	15.9	C	13.8	B	0.0*	A
			NBL	9.1	A	8.6	A	8.4	A	8.7	A
			SBL	8.6	A	8.3	A	8.4	A	0.0*	A
5	Adams Road & Rivenoak Street	Stop (Minor)	EB	15.2	C	12.3	B	14.3	B	12.8	B
			NBL	9.2	A	8.7	A	8.4	A	8.7	A
			SB	Free		Free		Free		Free	
6	Adams Road & Westboro Drive	Stop (Minor)	WB	22.7	C	17.3	C	14.5	B	19.5	C
			NB	Free		Free		Free		Free	
			SBL	8.6	A	8.4	A	8.4	A	8.7	A
7	Adams Road & Madison Street	Stop (Minor)	EB	15.4	C	14.8	B	14.0	B	22.0	C
			NBL	9.2	A	8.7	A	8.4	A	8.7	A
			SB	Free		Free		Free		Free	
8	Adams Road & Buckingham Avenue	Signalized	WB	31.3	C	31.0	C	31.3	C	30.9	C
			NB	6.8	A	6.3	A	6.5	A	7.1	A
			SBL	1.0	A	0.6	A	0.8	A	1.2	A
			SBT	1.4	A	1.0	A	0.7	A	1.0	A
			Overall	**4.3**	**A**	**3.9**	**A**	**4.4**	**A**	**4.5**	**A**

** Indicates no vehicle volume present*

Conclusions

- The results of the existing conditions analysis indicates that all approaches and movements at the study intersection are currently operating acceptably, at a LOS D or better during the peak and off-peak periods.
- Review of SimTraffic network simulations also indicates acceptable operations throughout the study roadway network during all peak periods. Vehicle queues observed at the signalized study intersections were observed to be serviced within each cycle length, leaving minimal residual vehicle queueing.
- Vehicles at the stop-controlled study intersections were able to find sufficient gaps within the through traffic along Adams Road, without experiencing significant delays or excessive queueing.

3.2 Road Diet (2023) Analysis

The results of the road diet evaluation are summarized in **Table 4** and shows that, with the implementation of the proposed road diet all approaches and movements at the study intersections are expected to continue to operate acceptably, at LOS D or better during all peak periods, with the following exception:

Adams Road & Kennesaw Street / Derby Middle School Parking Lot

- During AM peak hour: The eastbound approach is expected to operate at LOS E.

Although the Synchro intersection LOS analysis indicates poor operations for the eastbound approach, review of SimTraffic network simulations indicates acceptable operations and minimal vehicle queuing during the AM peak hour. The projected intersection delay is primarily the result of the conflicting traffic on the westbound Derby Middle School Parking Lot approach, causing increased delays for the eastbound approach. The traffic egressing the westbound approach are suspected to be parents utilizing the parking lot area to drop their children off at school, in order to avoid the designated Pick-Up/Drop-Off (PUDO) area. However, the reported 95th percentile queue length is approximately 37 feet (1-2 vehicles), which is not significant; additionally, eastbound vehicles were observed to find adequate gaps within the through traffic.

Conclusions

- The results of the road diet analysis indicates that all approaches and movements at the study intersection are expected to continue operating acceptably, at a LOS D or better during the peak and off-peak periods, with the exception of the eastbound Kennesaw Street approach, which is anticipated to experience an additional 9 seconds of delay per vehicle with the road diet.
- Review of SimTraffic network simulations also indicates acceptable operations throughout the study roadway network during all peak periods. Vehicle queues observed at the signalized study intersections were observed to be serviced within each cycle length, leaving minimal residual vehicle queueing.
- Vehicles at the stop-controlled study intersections were able to find sufficient gaps within the through traffic along Adams Road, without experiencing significant delays or excessive queueing.
- Review of SimTraffic network simulations for the remaining study roadway network intersections indicates acceptable operations during all peak periods. Microsimulation observations at all other study intersections indicates acceptable operations, with no significant delays or excessive vehicle queueing observed.
- The projected increase in corridor delay, with the road diet implementation, is less than 5 sec per vehicle and will be indiscernible from daily fluctuations in traffic volumes.

Table 3: Road Diet Delay Summary (2023)

	AM Peak Hour	MD Peak Hour	School PM Peak Hour	PM Peak Hour
Adams Road Corridor Travel Time Increase	3.1 sec (NB) 2.1 sec (SB)	3.7 sec (NB) 2.8 sec (SB)	4.2 sec (NB) 2.7 sec (SB)	4.9 sec (NB) 2.3 sec (SB)

Table 4: Road Diet Geometry (3-Lanes) Intersection Operations – Opening Day (2023)

	Intersection	Control	Approach	Existing Conditions (2023)								Road Diet (Opening Day 2023)								Difference							
				AM Peak		MD Peak		School Peak		PM Peak		AM Peak		MD Peak		School Peak		PM Peak		AM Peak		MD Peak		School Peak		PM Peak	
				Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS
1	Adams Road & Abbey Street	Stop (Minor)	EB	20.3	C	14.4	B	15.8	C	15.8	C	17.9	C	14.2	B	15.0	C	15.0	C	-2.4	-	-0.2	-	-0.8	-	-0.8	-
			NBL	9.6	A	8.8	A	8.6	A	8.9	A	9.5	A	8.8	A	8.6	A	8.9	A	-0.1	-	0.0	-	0.0	-	0.0	-
			SB	Free		Free		Free		Free		Free		Free		Free		Free		N/A							
2	Adams Road & Wimbleton Drive	Stop (Minor)	EB	17.9	C	15.8	C	14.5	B	18.1	C	23.9	C	20.4	C	17.9	C	22.7	C	6.0	-	4.6	-	3.4	B→C	4.6	-
			WB	9.9	A	20.6	C	9.8	A	13.9	B	11.5	B	27.4	D	11.3	B	18.0	C	1.6	A→B	6.8	C→D	1.5	A→B	4.1	B→C
			NBL	9.5	A	8.7	A	8.6	A	8.8	A	9.5	A	8.7	A	8.6	A	8.8	A	0.0	-	0.0	-	0.0	-	0.0	-
			SBL	8.5	A	8.6	A	8.4	A	8.6	A	8.5	A	8.6	A	8.4	A	8.6	A	0.0	-	0.0	-	0.0	-	0.0	-
3	Adams Road & Mohegan Street / Derby Road	Signal	EB	25.9	C	28.1	C	17.7	B	27.6	C	25.9	C	28.2	C	17.7	B	27.6	C	0.0	-	0.1	-	0.0	-	0.0	-
			WBL	31.6	C	30.6	C	17.8	B	28.5	C	31.8	C	30.9	C	17.8	B	28.5	C	0.2	-	0.3	-	0.0	-	0.0	-
			WBTR	31.2	C	32.1	C	18.2	B	29.6	C	31.5	C	32.6	C	18.2	B	29.6	C	0.3	-	0.5	-	0.0	-	0.0	-
			NBTL [NBL]	0.5	A	0.4	A	1.3	A	0.4	A	0.0	A	1.4	A	0.0	A	1.4	A	-0.5	-	1.0	-	-1.3	-	1.0	-
			NBTR	0.5	A	0.5	A	1.2	A	0.5	A	1.3	A	1.1	A	18.1	B	1.1	A	0.8	-	0.6	-	16.9	A→B	0.6	-
			SBTL [SBL]	10.3	B	7.2	A	14.5	B	7.3	A	8.9	A	6.1	A	23.4	C	6.3	A	-1.4	B→A	-1.1	-	8.9	B→C	-1.0	-
			SBTR	10.8	B	7.3	A	14.8	B	7.4	A	13.6	B	9.0	A	17.7	B	9.1	A	2.8	-	1.7	-	2.9	-	1.7	-
			Overall	**12.4**	**B**	**8.7**	**A**	**8.9**	**A**	**6.5**	**A**	**13.8**	**B**	**9.7**	**A**	**18.1**	**B**	**7.5**	**A**	**1.4**	**-**	**1.0**	**-**	**9.2**	**A→B**	**1.0**	**-**
4	Adams Road & Kennesaw Street / Derby Parking Lot	Stop (Minor)	EB	26.9	D	18.2	C	16.2	C	18.0	C	36.0	E	22.3	C	20.2	C	23.2	C	9.1	D→E	4.1	-	4.0	-	5.2	-
			WB	21.4	C	15.9	C	13.8	B	0.0*	A	30.4	D	21.6	C	16.6	C	0.0*	A	9.0	C→D	5.7	-	2.8	B→C	N/A	
			NBL	9.1	A	8.6	A	8.4	A	8.7	A	9.1	A	8.6	A	8.4	A	8.7	A	0.0	-	0.0	-	0.0	-	0.0	-
			SBL	8.6	A	8.3	A	8.4	A	0.0*	A	8.6	A	8.3	A	8.4	A	0.0*	A	0.0	-	0.0	-	0.0	-	N/A	
5	Adams Road & Rivenoak Street	Stop (Minor)	EB	15.2	C	12.3	B	14.3	B	12.8	B	15.0	C	13.1	B	13.7	B	13.4	B	-0.2	-	0.8	-	-0.6	-	0.6	-
			NBL	9.2	A	8.7	A	8.4	A	8.7	A	9.2	A	8.7	A	8.4	A	8.7	A	0.0	-	0.0	-	0.0	-	0.0	-
			SB	Free		Free		Free		Free		Free		Free		Free		Free		N/A							
6	Adams Road & Westboro Drive	Stop (Minor)	WB	22.7	C	17.3	C	14.5	B	19.5	C	15.4	C	13.5	B	12.9	B	14.5	B	-7.3	-	-3.8	C→B	-1.6	-	-5.0	C→B
			NB	Free		Free		Free		Free		Free		Free		Free		Free		N/A							
			SBL	8.6	A	8.4	A	8.4	A	8.7	A	8.6	A	8.4	A	8.4	A	8.6	A	0.0	-	0.0	-	0.0	-	-0.1	-
7	Adams Road & Madison Street	Stop (Minor)	EB	15.4	C	14.8	B	14.0	B	22.0	C	14.2	B	13.1	B	12.5	B	15.3	C	-1.2	C→B	-1.7	-	-1.5	-	-6.7	-
			NBL	9.2	A	8.7	A	8.4	A	8.7	A	0.2	A	8.7	A	8.4	A	8.7	A	-9.0	-	0.0	-	0.0	-	0.0	-
			SB	Free		Free		Free		Free		Free		Free		Free		Free		N/A							
8	Adams Road & Buckingham Avenue	Signal	WB	31.3	C	31.0	C	31.3	C	30.9	C	31.3	C	31.0	C	31.3	C	30.9	C	0.0	-	0.0	-	0.0	-	0.0	-
			NB	6.8	A	6.3	A	6.5	A	7.1	A	6.8	A	6.3	A	6.5	A	7.1	A	0.0	-	0.0	-	0.0	-	0.0	-
			SBL	1.0	A	0.6	A	0.8	A	1.2	A	1.0	A	0.6	A	0.8	A	1.2	A	0.0	-	0.0	-	0.0	-	0.0	-
			SBT	1.4	A	1.0	A	0.7	A	1.0	A	1.4	A	1.0	A	0.7	A	1.0	A	0.0	-	0.0	-	0.0	-	0.0	-
			Overall	**4.3**	**A**	**3.9**	**A**	**4.4**	**A**	**4.5**	**A**	**4.3**	**A**	**3.9**	**A**	**4.4**	**A**	**4.5**	**A**	**0.0**	**-**	**0.0**	**-**	**0.0**	**-**	**0.0**	**-**

**Indicates no vehicles present*

3.3 Road Diet Horizon Year (2043) Analysis

Historical population community profile data was obtained for Birmingham from the Southeast Michigan Council of Government (SEMCOG), in order to calculate a background growth rate to project the existing 2023 traffic volumes to the horizon year of 2043. Population and employment projections from 2020 to 2045 were reviewed and indicated an average annual growth of 0.08%; therefore, a conservative growth rate 0.5% was applied to the 2023 traffic volumes to project the horizon 2043 traffic volumes, as shown in the attached **Figure 5**.

The Horizon Year (2043) conditions analysis was evaluated based on the proposed lane use and traffic control shown on the attached **Figure 4**, the Horizon Year (2043) traffic volumes shown on the attached **Figure 5**, and the methodologies presented in HCM6. The Horizon Year (2043) analysis provides a comparison between the Horizon Year (2043) traffic volumes under the existing roadway geometry and the proposed road diet geometry; the results of the analysis are attached and summarized in **Table 6**.

The results of the Horizon Year (2043) analysis indicates that, all approaches and movements at the study intersections are expected to continue operating acceptably, at LOS D or better during all peak periods, similar to the existing conditions analysis, with the exception of the following:

Adams Road & Kennesaw Street / Derby Middle School Parking

- During AM peak hour: The eastbound and westbound approaches are expected to operate at LOS E.

Although the Synchro intersection LOS analysis indicates poor operations for these approaches, review of SimTraffic microsimulations indicates acceptable operations and minimal vehicle queuing during the AM peak hour. The projected intersection delay is the result of the conflicting traffic on the eastbound and westbound approaches, causing increased delays for both approaches. The traffic egressing the westbound approach are suspected to be parents utilizing the parking lot area to drop their children off at school, in order to avoid the designated Pick-Up/Drop-Off (PUDO) area. However, the reported 95th percentile queue length is approximately 67 feet (2-3 vehicles) or less for both approaches, which is not significant; additionally, eastbound and westbound vehicles were observed to find adequate gaps within the through traffic. Review of SimTraffic network simulations also indicates acceptable operations throughout the remaining study network.

Conclusions

- The results of the horizon year analysis indicates that all approaches and movements at the study intersection are expected to continue operating acceptably, at a LOS D or better during the peak and off-peak periods, with the exception of the eastbound Kennesaw Street and westbound Derby Middle School Parking Lot approaches, which are anticipated to experience an additional 20-21 seconds of delay per vehicle with the road diet and horizon year traffic volumes.
- Review of SimTraffic network simulations also indicates acceptable operations throughout the study roadway network during all peak periods. Vehicle queues observed at the signalized study intersections were observed to be serviced within each cycle length, leaving minimal residual vehicle queueing.
- Vehicles at the stop-controlled study intersections were able to find sufficient gaps within the through traffic along Adams Road, without experiencing significant delays or excessive queueing.
- Review of SimTraffic network simulations for the remaining study roadway network intersections indicates acceptable operations during all peak periods. Microsimulation observations indicate acceptable operations, with no significant delays or excessive vehicle queueing observed.
- The projected increase in corridor delay, with the road diet implementation and horizon year traffic volumes, is less than 7 sec per vehicle and will be indiscernible from daily fluctuations in traffic volumes.

At the Horizon Year (2043) buildout, no geometric and/or signal timing improvements are recommended. The overall increase in delay associated with the proposed road diet is negligible and is summarized in **Table 5**.

Table 5: Road Diet Horizon Year Delay Summary (2043)

	AM Peak Hour	MD Peak Hour	School PM Peak Hour	PM Peak Hour
Adams Road Corridor Travel Time Increase	5.0 sec (NB) 4.3 sec (SB)	4.3 sec (NB) 5.2 sec (SB)	6.6 sec (NB) 3.5 sec (SB)	5.8 sec (NB) 3.2 sec (SB)

Table 6: Road Diet Geometry (3-Lanes) Intersection Operations – Horizon Year (2043)

	Intersection	Control	Approach	Existing Conditions (2023)								Road Diet (Horizon Year 2043)								Difference							
				AM Peak		MD Peak		School Peak		PM Peak		AM Peak		MD Peak		School Peak		PM Peak		AM Peak		MD Peak		School Peak		PM Peak	
				Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS
1	Adams Road & Abbey Street	Stop (Minor)	EB	20.3	C	14.4	B	15.8	C	15.8	C	20.0	C	15.2	C	16.3	C	16.2	C	-0.3	-	0.8	B→C	0.5	-	0.4	-
			NBL	9.6	A	8.8	A	8.6	A	8.9	A	9.9	A	9.0	A	8.8	A	9.1	A	0.3	-	0.2	-	0.2	-	0.2	-
			SB	Free		Free		Free		Free		Free		Free		Free		Free		N/A							
2	Adams Road & Wimbleton Drive	Stop (Minor)	EB	17.9	C	15.8	C	14.5	B	18.1	C	29.7	D	23.7	C	20.4	C	27.2	D	11.8	C→D	7.9	-	5.9	B→C	9.1	C→D
			WB	9.9	A	20.6	C	9.8	A	13.9	B	12.1	B	32.7	D	11.8	B	20.5	C	2.2	A→B	12.1	C→D	2.0	A→B	6.6	B→C
			NBL	9.5	A	8.7	A	8.6	A	8.8	A	9.9	A	8.9	A	8.7	A	9.0	A	0.4	-	0.2	-	0.1	-	0.2	-
			SBL	8.5	A	8.6	A	8.4	A	8.6	A	8.6	A	8.8	A	8.6	A	8.8	A	0.1	-	0.2	-	0.2	-	0.2	-
3	Adams Road & Mohegan Street / Derby Road	Signal	EB	25.9	C	28.1	C	17.7	B	27.6	C	26.3	C	28.3	C	17.8	B	27.6	C	0.4	-	0.2	-	0.1	-	0.0	-
			WBL	31.6	C	30.6	C	17.8	B	28.5	C	33.4	C	31.3	C	17.8	B	28.7	C	1.8	-	0.7	-	0.0	-	0.2	-
			WBTR	31.2	C	32.1	C	18.2	B	29.6	C	32.7	C	33.4	C	18.3	B	29.9	C	1.5	-	1.3	-	0.1	-	0.3	-
			NBLT [NBL]	0.5	A	0.4	A	1.3	A	0.4	A	0.0	A	1.9	A	0.0	A	1.9	A	-0.5	-	1.5	-	-1.3	-	1.5	-
			NBTR	0.5	A	0.5	A	1.2	A	0.5	A	1.5	A	1.4	A	25.5	C	1.4	A	1.0	-	0.9	-	24.3	A→C	0.9	-
			SBLT [SBL]	10.3	B	7.2	A	14.5	B	7.3	A	9.2	A	6.2	A	28.3	C	6.4	A	-1.1	B→A	-1.0	-	13.8	B→C	-0.9	-
			SBTR	10.8	B	7.3	A	14.8	B	7.4	A	15.1	B	9.6	A	18.8	B	9.7	A	4.3	-	2.3	-	4.0	-	2.3	-
			Overall	**12.4**	**B**	**8.7**	**A**	**8.9**	**A**	**6.5**	**A**	**14.8**	**B**	**10.1**	**B**	**22.1**	**C**	**7.9**	**A**	**2.4**	-	**1.4**	**A→B**	**13.2**	**A→C**	**1.4**	-
4	Adams Road & Kennesaw Street / Derby Parking Lot	Stop (Minor)	EB	26.9	D	18.2	C	16.2	C	18.0	C	47.9	E	26.9	D	23.0	C	28.4	D	21.0	D→E	8.7	C→D	6.8	-	10.4	C→D
			WB	21.4	C	15.9	C	13.8	B	0.0*	A	41.9	E	27.1	D	18.8	C	0.0*	A	20.5	C→E	11.2	C→D	5.0	B→C	N/A	
			NBL	9.1	A	8.6	A	8.4	A	8.7	A	9.4	A	8.8	A	8.5	A	8.9	A	0.3	-	0.2	-	0.1	-	0.2	-
			SBL	8.6	A	8.3	A	8.4	A	0.0*	A	8.8	A	8.4	A	8.5	A	0.0*	A	0.2	-	0.1	-	0.1	-	N/A	
5	Adams Road & Rivenoak Street	Stop (Minor)	EB	15.2	C	12.3	B	14.3	B	12.8	B	16.1	C	13.8	B	14.6	B	14.2	B	0.9	-	1.5	-	0.3	-	1.4	-
			NBL	9.2	A	8.7	A	8.4	A	8.7	A	9.5	A	8.9	A	8.6	A	8.9	A	0.3	-	0.2	-	0.2	-	0.2	-
			SB	Free		Free		Free		Free		Free		Free		Free		Free		N/A							
6	Adams Road & Westboro Drive	Stop (Minor)	WB	22.7	C	17.3	C	14.5	B	19.5	C	16.8	C	14.4	B	13.5	B	15.4	C	-5.9	-	-2.9	C→B	-1.0	-	-4.1	-
			NB	Free		Free		Free		Free		Free		Free		Free		Free		N/A							
			SBL	8.6	A	8.4	A	8.4	A	8.7	A	8.8	A	8.5	A	8.5	A	8.8	A	0.2	-	0.1	-	0.1	-	0.1	-
7	Adams Road & Madison Street	Stop (Minor)	EB	15.4	C	14.8	B	14.0	B	22.0	C	15.2	C	13.9	B	13.1	B	16.5	C	-0.2	-	-0.9	-	-0.9	-	-5.5	-
			NBL	9.2	A	8.7	A	8.4	A	8.7	A	9.5	A	8.9	A	8.5	A	8.9	A	0.3	-	0.2	-	0.1	-	0.2	-
			SB	Free		Free		Free		Free		Free		Free		Free		Free		N/A							
8	Adams Road & Buckingham Avenue	Signal	WB	31.3	C	31.0	C	31.3	C	30.9	C	31.4	C	31.1	C	31.4	C	31.0	C	0.1	-	0.1	-	0.1	-	0.1	-
			NB	6.8	A	6.3	A	6.5	A	7.1	A	7.2	A	6.6	A	6.9	A	7.5	A	0.4	-	0.3	-	0.4	-	0.4	-
			SBL	1.0	A	0.6	A	0.8	A	1.2	A	1.4	A	0.8	A	1.0	A	1.5	A	0.4	-	0.2	-	0.2	-	0.3	-
			SBT	1.4	A	1.0	A	0.7	A	1.0	A	1.8	A	1.2	A	0.9	A	1.2	A	0.4	-	0.2	-	0.2	-	0.2	-
			Overall	**4.3**	**A**	**3.9**	**A**	**4.4**	**A**	**4.5**	**A**	**4.7**	**A**	**4.1**	**A**	**4.6**	**A**	**4.8**	**A**	**0.4**	-	**0.2**	-	**0.2**	-	**0.3**	-

**indicates no vehicles present*

4 Safety Study

4.1 Crash Analysis

A crash analysis was conducted at the study intersections and roadway segments along the Adams Road corridor. Historical traffic crash data were obtained from the Michigan Traffic Crash Facts (MTCF) website. The crash analysis includes crashes from the most recent five years (January 1, 2016 to December 31, 2020) of available data. There were a total 30 crashes reported along the study corridor in the past five years. There were seven (7) crashes with injuries; however, zero (0) fatalities or "Type A" injuries were reported.

The general crash type along the corridor is Rear-End – Straight (40%), Angle Crashes (20%), and Sideswipe-Same Direction (20%) crashes. The majority of crashes at the signalized intersections were rear end crashes, which is typical of signalized intersections. Review of the UD-10 reports for the intersections and segments along the corridor indicates that the crashes were sporadic and distributed equally from all directions of travel, suggesting that a directional crash pattern was not present.

All the crashes included in this analysis are summarized in **Chart 1**. The individual intersection and segment crash types along the Adams Road corridor are summarized in **Table 7**. Review of the summary data indicate that the majority of crashes occurred at the intersection of Adams Road & Mohegan Street / Derby Road; however, detailed review of the crash reports indicates no observable crash pattern is present.

Chart 1: Percentage of Crashes by Type

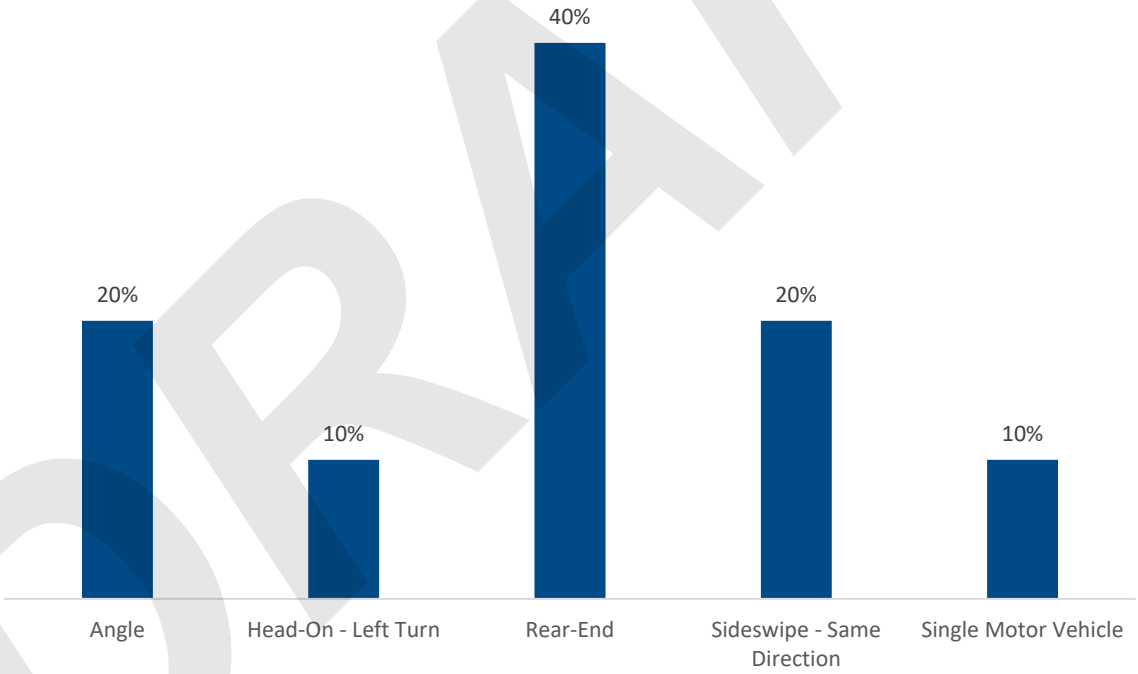


Table 7: Intersection and Segment Crash Summary by Crash Type

11-Mile Road Location		Single Motor Vehicle	Head On	Head On Left-Turn	Angle	Rear End (Straight)	Rear End (Left-Turn)	Rear End (Right-Turn)	Sideswipe-Same	Sideswipe-Opposite	Other/Unknown	Total	Percentage
Adams Road & Abbey Street	Intersection	0	0	0	0	0	0	0	0	0	0	**0**	0%
Abbey Street to Wimbleton Drive	Segment	2	0	0	0	0	0	0	1	0	0	**3**	10%
Adams Road & Wimbleton Drive	Intersection	0	0	1	2	0	0	0	0	0	0	**3**	10%
Wimbleton Drive to Mohegan Street / Derby Road	Segment	0	0	0	1	0	0	0	1	0	0	**2**	7%
Adams Road & Mohegan Street / Derby Road	Intersection	0	0	2	2	5	0	0	1	0	0	**10**	33%
Mohegan Street / Derby Road to Kennesaw Street	Segment	0	0	0	0	1	0	0	1	0	0	**2**	7%
Adams Road & Kennesaw Street	Intersection	0	0	0	1	0	0	0	0	0	0	**1**	3%
Kennesaw Street to Rivenoak Street	Segment	1	0	0	0	0	0	0	1	0	0	**1**	7%
Adams Road & Rivenoak Street	Intersection	0	0	0	0	0	0	0	0	0	0	**0**	0%
Rivenoak Street to Westboro Drive	Segment	0	0	0	0	3	0	0	1	0	0	**4**	13%
Adams Road & Westboro Drive	Intersection	0	0	0	0	0	0	0	0	0	0	**0**	0%
Westboro Drive to Madison Street	Segment	0	0	0	0	1	0	0	0	0	0	**1**	3%
Adams Road & Madison Street	Intersection	0	0	0	0	0	0	0	0	0	0	**0**	0%
Madison Street to Buckingham Avenue	Segment	0	0	0	0	0	0	0	0	0	0	**0**	0%
Adams Road & Buckingham Avenue	Intersection	0	0	0	0	2	0	0	0	0	0	**2**	7%
Total		**3**	**0**	**3**	**6**	**12**	**0**	**0**	**6**	**0**	**0**	**30**	**100%**

Table 8: Road Conditions Summary

Road Conditions		
Condition	**Number of Crashes**	**%**
Dry	22	74%
Unknown	0	0%
Wet	7	23%
Snow	1	3%
Total	**30**	**100%**

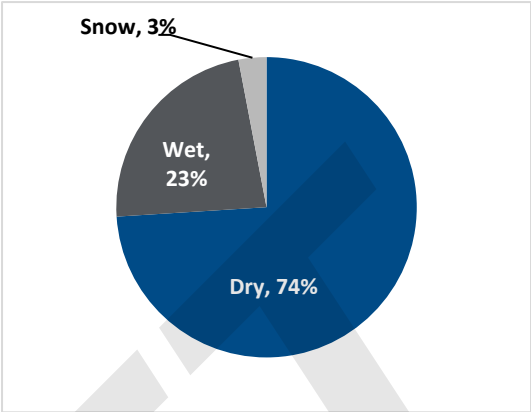


Table 9: Light Conditions Summary

Light Conditions		
Condition	**Number of Crashes**	**%**
Dark-Unlighted	1	3%
Dark-Lighted	4	14%
Dusk	0	0%
Dawn	1	3%
Daylight	24	80%
Total	**30**	**100%**

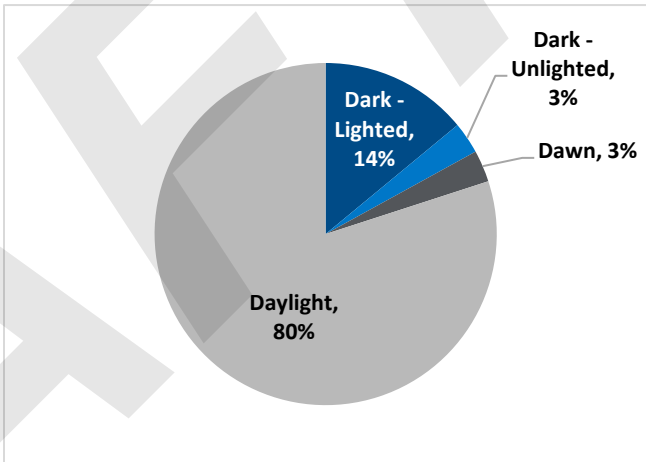
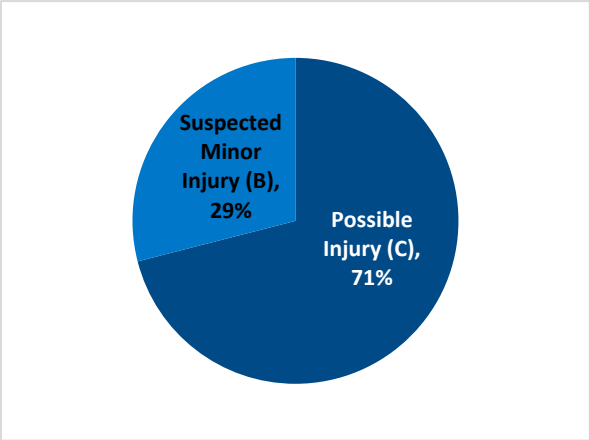


Table 10: Crashes with Injury

Worst Injury in Crash		
Severity	**Crashes with Injury**	**% of Injuries**
Fatalities	0	0%
"A" Injuries	0	0%
"B" Injuries	2	29%
"C" Injuries	5	71%
Total	**7**	**100%**



The SEMCOG Crash Analysis Process *Regional Critical Intersection Crash Rates, Frequencies and Casualty Ratios: By Presence or Absence of Signalization* was used to compare the actual crash rates and frequencies to the regional rates for similar intersection operations. The study area included in this analysis is located within the SEMCOG region. Therefore, the data provided by SEMCOG provides an applicable comparison to the crash rates experienced within the study area. The results of the analysis are summarized in **Table 11**.

Table 11: Study Network Intersection Crash Comparison

	Intersection	Average ADT (Entering Volume vpd)	Total (5 years)	Crash Frequency (crashes/year)			Crash Rate (crashes per MV)		
				Intersection Annual Crash Frequency	SEMCOG Average Annual Crash Frequency	Difference	Intersection Crash Rate	SEMCOG Average Crash Rate	Difference
1	Adams Road & Abbey Street	11,695	**0**	0.0	2.36	-2.36	0.00	0.46	-0.46
2	Adams Road & Wimbleton Drive	11,365	**3**	0.6	2.36	-1.76	0.14	0.46	-0.32
3	Adams Road & Mohegan Street / Derby Road	12,735	**10**	2.0	4.69	-2.69	0.43	0.87	-0.44
4	Adams Road & Kennesaw / Derby Parking Lot	11,175	**1**	0.2	2.36	-2.16	0.05	0.46	-0.41
5	Adams Road & Rivenoak Street	10,880	**0**	0.0	2.36	-2.36	0.00	0.46	-0.46
6	Adams Road & Westboro Drive	10,835	**0**	0.0	2.36	-2.36	0.00	0.46	-0.46
7	Adams Road & Madison Street	10,930	**0**	0.0	2.36	-2.36	0.00	0.46	-0.46
8	Adams Road & Buckingham Avenue	10,960	**2**	0.4	4.69	-4.29	0.10	0.87	-0.77

The results of the analysis indicates that all of the study intersections currently have crash frequencies (crashes per year) and crash rates (crashes per million entering vehicles) below to the SEMCOG average for intersections with similar characteristics. Therefore, no changes to the roadway geometry or traffic control operations are recommended as part of this study.

4.2 Highway Safety Manual Analysis

The Federal Highway Administration (FHWA) has identified Road Diets a proven safety countermeasure and promotes them as a safety-focused design alternative to a traditional four-lane. In order to determine the predictive impact on safety, an analysis was performed according to the Highway Safety Manual (HSM) crash predictive methodology. The analysis included the evaluation of the existing operations along the four-lane section of the Adams Road corridor and a safety review of the operations after the implementation of the recommended road diet to provide corridor-wide three-lane striping.

The latest HSM predictive methods analysis spreadsheet, provided by the MDOT Safety Programs Unit, was utilized to determine the expected and predicted crashes associated with the existing geometry and proposed road diet configuration. This analysis used the urban/sub-urban segments model and the crash prediction values provided by MDOT in the HSM spreadsheet. The results of the analysis are summarized in **Table 12** below and the detailed HSM summary sheets are attached.

Table 12: Highway Safety Analysis Summary

Scenario	Property Damage Only (PDO)		Fatal and Injury (FI)		Total			
	Predicted Crashes per Year	Crash Rate (Crashes / mile / year)	Predicted Crashes per Year	Crash Rate (Crashes / mile / year)	Predicted Crashes per Year	Reduction (%)	Crash Rate (Crashes / mile / year)	Reduction (%)
Abbey Street & Rivenoak Street	1.39	4.63	0.30	0.99	1.68		5.62	
Road Diet (4-lane to 3-lane)	1.26	4.20	0.20	0.66	1.46	**13.4%**	4.86	**13.4%**

It should be noted that the Adams Road segment between Abbey Street and Rivenoak Street has a 4-lane cross-sections with two (2) lanes in each direction, whereas the Adams Road segment south of Rivenoak Street has 3-lane cross-section.

The result of the analysis indicates that the 4-lane to 3-lane road diet is expected to reduce the predicted crash rates and frequencies by approximately 13-14% per year throughout the Adams Road study corridor between Abbey Street and Rivenoak Street.

5 CONCLUSIONS

The conclusions of this Traffic Study are as follows:

5.1 EXISTING (2023) GEOMETRY (4-LANES) ANALYSIS

A. The results of the existing conditions analysis indicates that all study intersection approaches and movements are currently operating acceptably, at LOS D or better during the peak and off-peak periods.

B. Review of SimTraffic network simulations indicates acceptable operations, during all peak periods, throughout the study roadway network intersections.

5.2 OPENING DAY (2023) – ROAD DIET (3-LANES) ANALYSIS

A. All approaches and movements at the study intersection are expected to continue operating acceptably, at a LOS D or better during the peak and off-peak periods, with the exception of the eastbound Kennesaw Street approach, which is anticipated to experience an additional 9 seconds of delay per vehicle with the road diet.

   a. Although the LOS analysis indicates poor operations, review of SimTraffic microsimulations indicates acceptable operations, with a 95th percentile queue length is approximately 37 feet (1-2 vehicles), which is not significant. It should be noted that, the traffic egressing the westbound Derby Middle School Parking Lot approach and causing conflicts with the eastbound approach are suspected to be parents utilizing the parking lot area to drop their children off at school, in order to avoid the designated Pick-Up/Drop-Off (PUDO) area.

B. Review of SimTraffic network simulations for the remaining study roadway network intersections indicates acceptable operations during all peak periods, with no significant delays or excessive vehicle queueing observed.

C. The projected increase in corridor delay, with the road diet implementation, is less than 5 sec per vehicle and will be indiscernible from daily fluctuations in traffic volumes.

5.3 HORIZON YEAR (2043) – ROAD DIET (3-LANES) ANALYSIS

A. All approaches and movements at the study intersection are expected to continue operating acceptably, at a LOS D or better during the peak and off-peak periods, with the exception of the eastbound Kennesaw Street and westbound Derby Middle School Parking Lot approaches, which are anticipated to experience an additional 20-21 seconds of delay per vehicle with the road diet.

   a. Review of SimTraffic microsimulations indicates acceptable operations, with a 95th percentile queue length is approximately 67 feet (2-3 vehicles), which is not significant. Additionally, it should be noted that, the projected delays are the result of conflicting traffic on the EB/WB approaches, with parents utilizing the parking lot to avoid the designated PUDO area.

B. Review of SimTraffic network simulations for the remaining study roadway network intersections indicates acceptable operations during all peak periods, with no significant delays or excessive vehicle queueing observed.

C. The projected increase in corridor delay, with the road diet implementation and the horizon year traffic volumes, is less than 7 sec per vehicle and will be indiscernible from daily fluctuations in traffic volumes.

5.4 SAFETY ANALYSIS

A. The result of the crash analysis indicates that there were a total of 30 crashes reported along the Adams Road corridor in past five years (2016-2020); of these crashes, seven (7) involved injuries; however, zero (0) fatalities or “Type A” injuries were reported. The general crash type trends were Rear-End Crashes (40%), Angle Crashes (20%), and Sideswipe-Same Direction (20%) crashes.

B. The analysis indicates that all of the study intersections have crash frequencies and crash rates below the SEMCOG average for comparable intersections.

C. A safety review was performed according to the Highway Safety Manual (HSM) crash predictive methodology. The result of the analysis indicates that 4-lane to 3-lane road diet would reduce the predicted crash rates and frequencies by approximately 13-14% per year throughout the Adams Road study corridor to the north of Rivenoak Street.

6 RECOMMENDATIONS

- The primary goal of this road diet is to improve safety and reduce the crashes along the Adams Road corridor. The result of the analysis indicates that crashes are expected to be reduced by **13-14%.**
- It is recommended that the road diet is implemented. There are several options to consider for the extra space created by the eliminated lanes, such as parking space, bike lanes, additional green space, etc. The use of the additional space is up to the discretion of the city.

Any questions related to this memorandum, study, analysis, and results should be addressed to Fleis & VandenBrink.

I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Michigan.

Attached: Figures 1-5
Traffic Volume Data
HCM LOS Description
Synchro Results

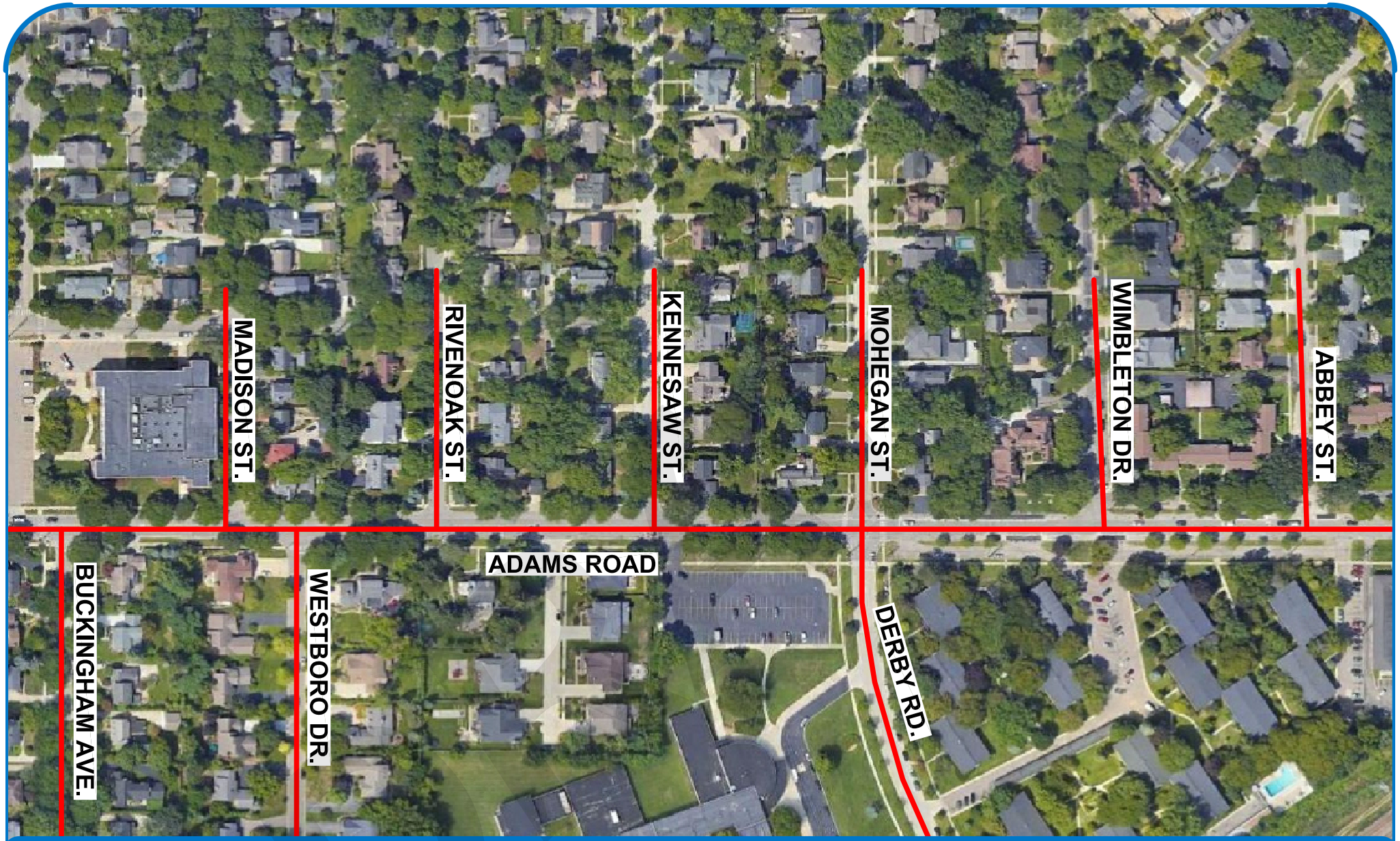


FIGURE 1

SITE LOCATION

ADAMS ROAD DIET - BIRMINGHAM, MI

LEGEND

SITE — SITE LOCATION

NORTH

SCALE: NOT TO SCALE

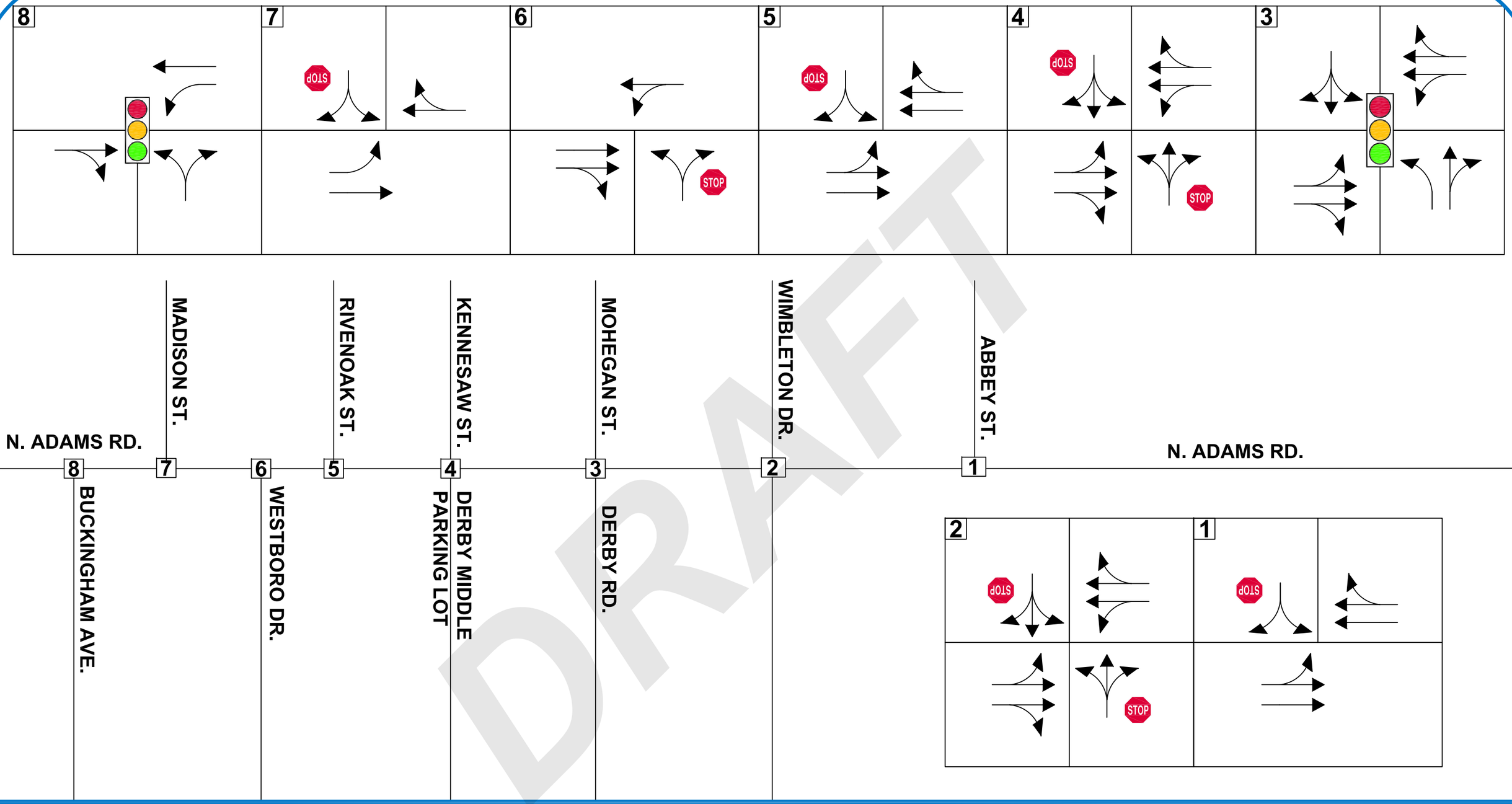


FIGURE 2

EXISTING LANE USE AND TRAFFIC CONTROL

ADAMS ROAD DIET - BIRMINGHAM, MI

LEGEND

- ROADS
- PROPOSED ROADS
- LANE USE
- PROPOSED LANE USE
- SIGNALIZED INTERSECTION
- UNSIGNALIZED INTERSECTION

NORTH

SCALE: NOT TO SCALE

F&V

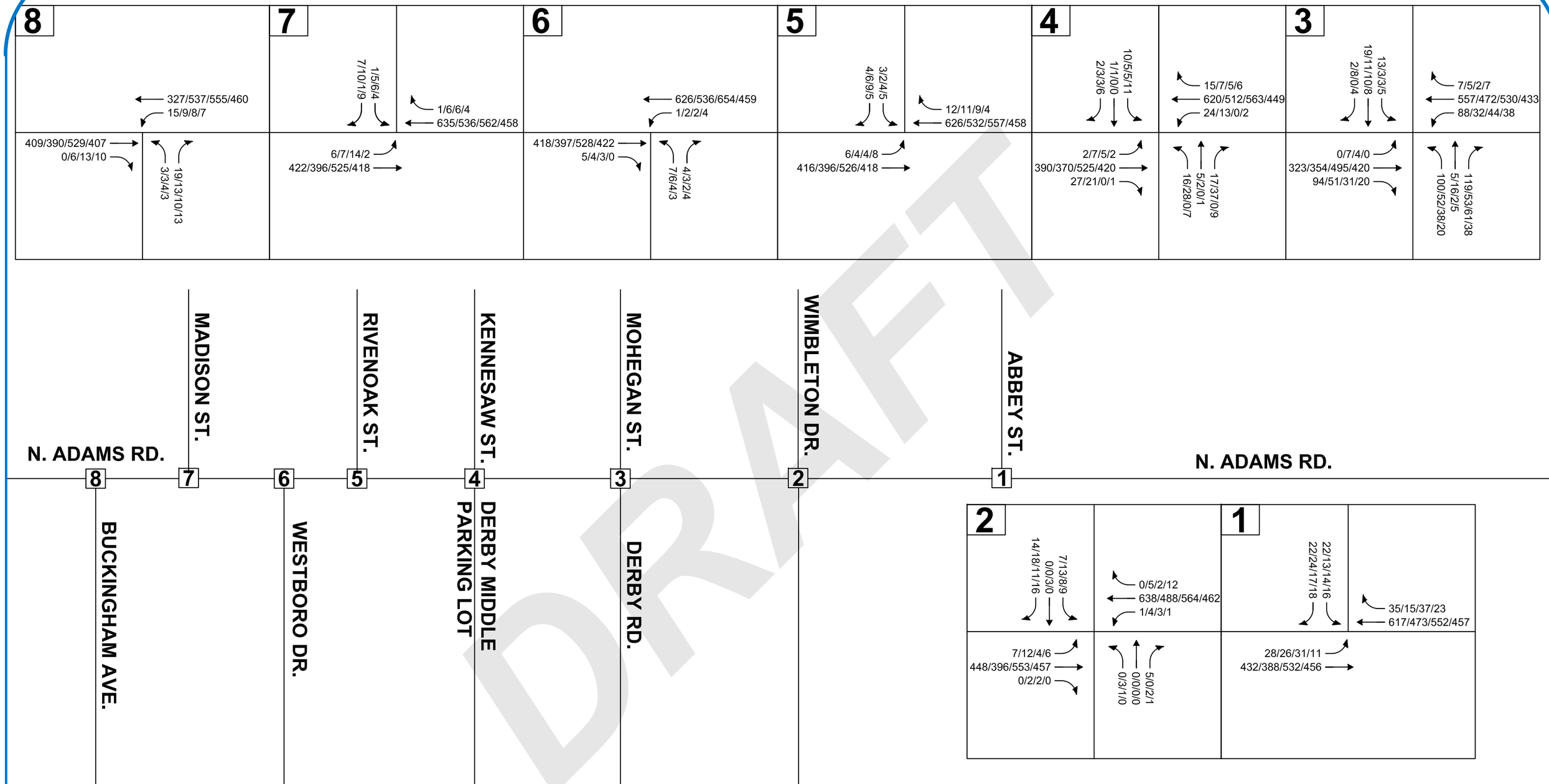


FIGURE 3
EXISTING TRAFFIC VOLUMES

ADAMS ROAD DIET - BIRMINGHAM, MI

LEGEND

- ROADS
- PROPOSED ROADS
- TRAFFIC VOLUMES (AM / MID-DAY / PM / SCHOOL PM)

NORTH
SCALE: NOT TO SCALE

F&V

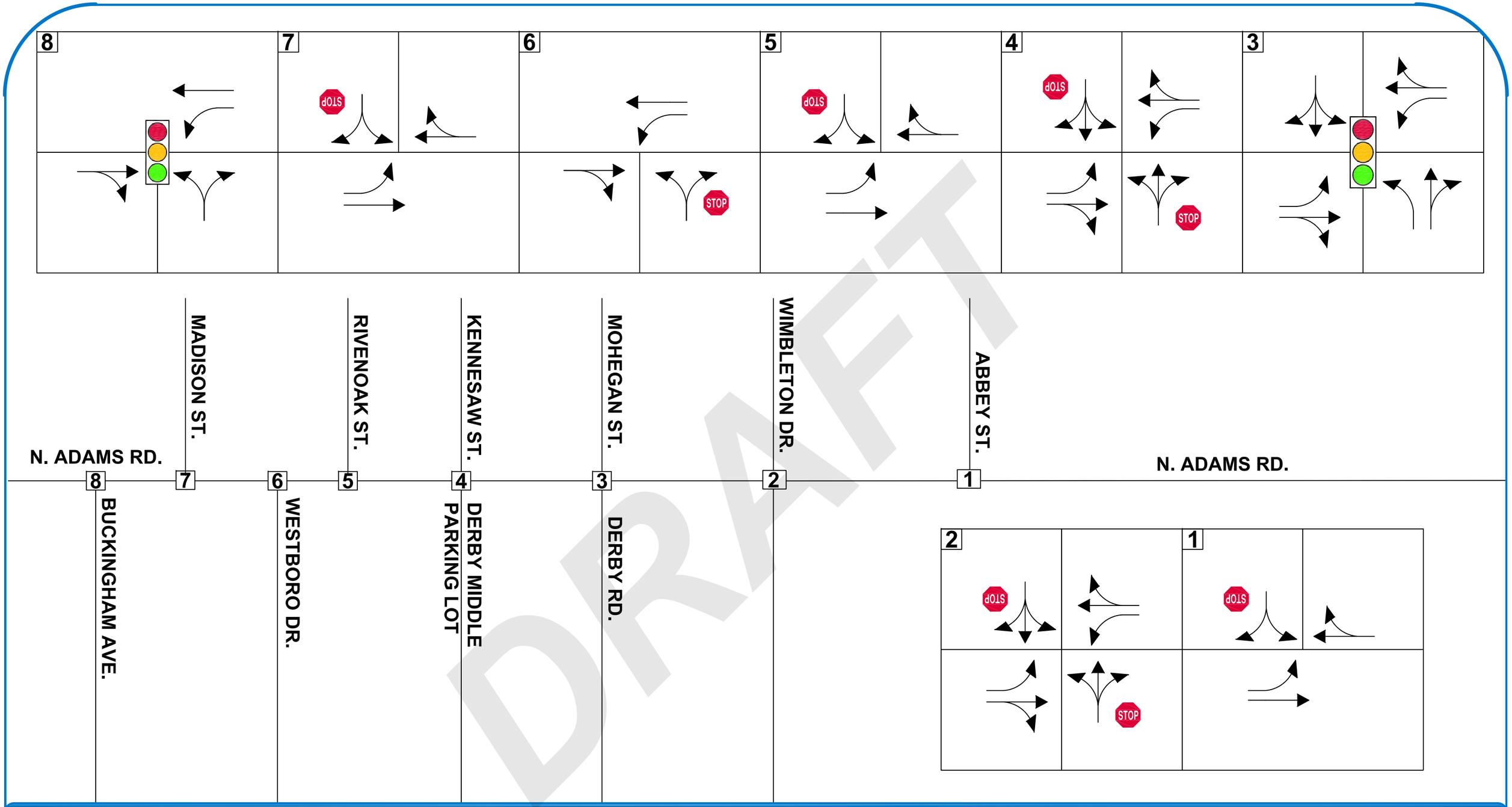


FIGURE 4

ROAD DIET LANE USE AND TRAFFIC CONTROL

ADAMS ROAD DIET - BIRMINGHAM, MI

LEGEND

- ROADS
- PROPOSED ROADS
- LANE USE
- PROPOSED LANE USE
- SIGNALIZED INTERSECTION
- UNSIGNALIZED INTERSECTION

NORTH

SCALE: NOT TO SCALE

F&V

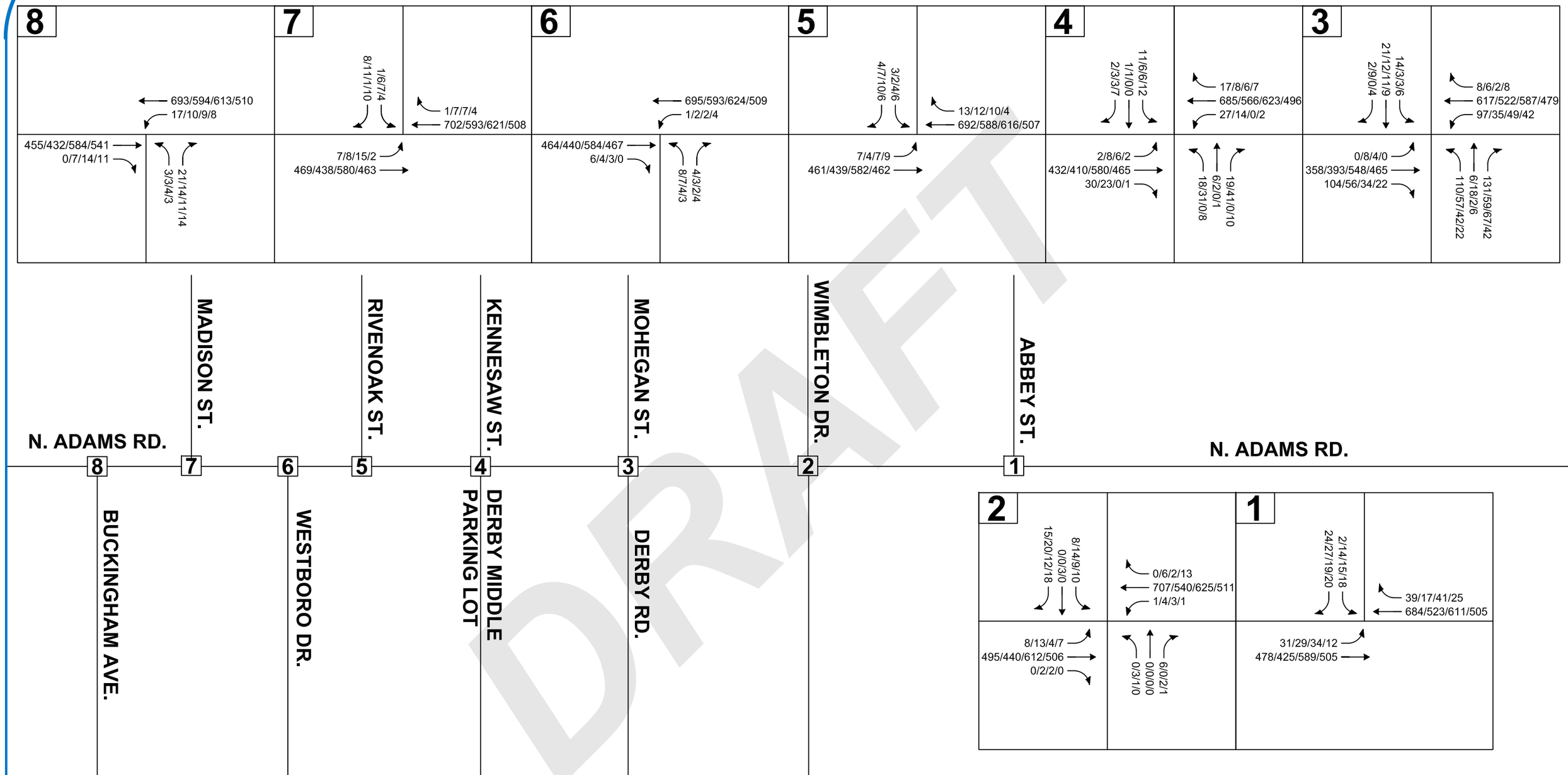


FIGURE 5
HORIZON YEAR (2043) TRAFFIC VOLUMES

ADAMS ROAD DIET - BIRMINGHAM, MI

LEGEND

- ROADS
- PROPOSED ROADS
- TRAFFIC VOLUMES (AM / MID-DAY / PM / SCHOOL PM)

NORTH
SCALE: NOT TO SCALE

F&V

BIRMINGHAM
A WALKABLE CITY

MEMORANDUM

Planning Division

DATE: April 28th, 2023

TO: Multi-Modal Transportation Board

FROM: Brooks Cowan, Senior Planner
Ryan Kearney, Police Lieutenant
Melissa Coatta, Engineering Department
With assistance from:
Brad Strader, MKSK
Julie Kroll, Fleis & Vandenbrink

SUBJECT: Multi-Modal Transportation Day

City staff is proposing another Multi-Modal Tranportation Day with the Board. Last year, Board members took the bus to Ferndale and rode Mogo bikes around town. This year, staff is recommending a Royal Oak visit. The Board may wish to discuss activities and days that work best for them.