MULTI-MODAL TRANSPORTATION BOARD
THURSDAY, JULY 12, 2018
6:00 PM
CITY COMMISSION ROOM
151 MARTIN STREET, BIRMINGHAM

1. Roll Call
2. Introductions
3. Review of the Agenda
4. Approval of Minutes, Meeting of **June 7, 2018**
5. **Residential Street Width Standards**
6. **Bike Share Program**
7. **Maple Road Improvements (Phase II of Old Woodward Project)**
8. Meeting Open to the Public for items not on the Agenda
9. Miscellaneous Communications
10. Next Meeting – **August 2, 2018**
11. Adjournment

Notice: Due to Building Security, public entrance during non-business hours is through the Police Department—Pierce St. Entrance only. Individuals with disabilities requiring assistance to enter the building should request aid via the intercom system at the parking lot entrance gate on Henrietta St.

Persons with disabilities that may require assistance for effective participation in this public meeting should contact the City Clerk's Office at the number (248) 530-1880, or (248) 644-5115 (for the hearing impaired) at least one day before the meeting to request help in mobility, visual, hearing, or other assistance.

Las personas con incapacidad que requieren algún tipo de ayuda para la participación en esta sesión pública deben ponerse en contacto con la oficina del escribano de la ciudad en el número (248) 530-1800 o al (248) 644-5115 (para enos un dia antes de la reunión para solicitar ayuda a la movilidad, visual, auditiva, o de otras asistencias. (Title VI of the Civil Rights Act of 1964).

CITY OF BIRMINGHAM
MULTI-MODAL TRANSPORTATION BOARD
THURSDAY, JUNE 7, 2018
City Commission Room
151 Martin Street, Birmingham, Michigan

Minutes of the regular meeting of the City of Birmingham Multi-Modal Transportation Board held Thursday, June 7, 2018.

Ms. Folberg convened the meeting at 6:02 p.m.

1. ROLL CALL

Present: Board Members Lara Edwards, Amy Folberg, Katie Schafer, Johanna Slanga, Doug White; Alternate Board Member Daniel Isaksen

Absent: Board Member Daniel Rontal

Administration: Jana Ecker, Planning Director
Scott Grewe, Police Dept. Commander
Paul O'Meara, City Engineer
Carole Salutes, Recording Secretary

Also Present: Julie Kroll and Mohamed Ajud from Fleis & Vandenbrink ("F&V"),Transportation Engineering Consultants

2. INTRODUCTIONS

Mr. White introduced himself and offered a little about his background. Then everyone introduced themselves to him.

3. REVIEW AGENDA (no change)

4. APPROVAL OF MINUTES, MMTB MEETING OF MAY 3, 2018

With regard to the revised residential street width standards that were covered in the minutes, it was noted that the public would have to work with the agenda and the minutes together to see what changes were made to the original standards.

Ms. Folberg was concerned there is no one place where all of the language is together. Ms. Ecker advised that the complete package comes together when the standards go before the City Commission for final approval.

Motion by Ms. Edwards
Seconded by Ms. Schafer to accept the MMTB Minutes of May 3, 2018 as presented.

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Motion carried, 6-0.

VOICE VOTE
Yeas: Edwards, Schafer, Folberg, Slanga, Isaksen, White
Abstain: None
Nays: None
Absent: Rontal

5. ELECTION OF CHAIR AND VICE-CHAIR

Motion by Ms. Edwards to nominate Johanna Slanga as Chair.

Motion carried, 6-0.

VOICE VOTE
Yeas: Edwards, Folberg, Slanga, Schafer, Isaksen, White
Nays: None
Absent: Rontal

Motion by Ms. Schafer to nominate _____ as Vice-Chair.

Motion carried, 6-0.

VOICE VOTE
Yeas: Schafer, Edwards, Folberg, Slanga, Isaksen, White
Nays: None
Absent: Rontal

6. RAIL DISTRICT STANDARD BIKE RACK AND LOCATIONS

Ms. Ecker recalled at April's MMTB meeting, members requested that City staff research CycleSafe's custom Bike U Racks. Ms. Chapman has provided information about the Custom U Racks and pricing information on previously considered bike rack models, in order to serve as a point of comparison. She also included 18 proposed locations in the Rail District for bike racks.

The Rail District's logo may be too intricate for CycleSafe's laser cutter. Laser Cut custom racks start at $850 each. The cost increases depending on the intricacy of the design. Since the Rail District logo is an intricate design, the price will probably be more than $850. For the Insignia Rack, CycleSafe would provide the rack and the City would have to supply logos that could be affixed to the rack. The Insignia is $341 per rack. For either the Laser Cut or the Insignia models there must be a minimum order of six.

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There is $650 left in the budget for this fiscal year, so if the U Rack is chosen they could go ahead with the first couple of priority locations. If the Custom Rack is chosen, it would have to wait until next year. The City Commission would have to determine whether they would approve the purchase of Custom Racks, given their cost. Internally, it is felt that it is a lot easier to have a standard rack so they can be kept in stock and put out as needed.

Mr. Isaksen thought the board could approve some of the Classic U Rack locations and postpone the more prominent locations for the Custom Racks. Then decide next fiscal year whether to order Custom Racks or to install Classic U Racks in those locations. Ms. Ecker advised that the City's fiscal year ends at the end of the month.

Ms. Edwards said the bike racks have a dual purpose. They are not just a bike rack; they are also signage. They give people a sense of place. Ms. Schafer thought maybe leave this open to see what the new City logo looks like and how does the City ultimately want to thrust that upon the community. Ms. Edwards said that a City logo rack could be used anywhere. Ms. Ecker thought the City logo will be coming up on the City Commission agenda in the near future.

Consensus was to go ahead and purchase as many Classic U Racks as possible with the current fiscal year's money, and state the top locations are for the U Racks only.

Chairperson Slangs suggested sending a note to the Commission saying when they are deliberating on the Birmingham logo, the MMTB is considering a little more expensive advertising and an uplift to the bike rack in specific locations.

Motion by Ms. Folberg
Seconded by Mr. Isaksen that the MMTB take the money available to them in this fiscal year and purchase as many City standard U Racks as they can and place them at the east cluster and the west cluster of Kenning Park.

Motion carried, 6-0.

VOICE VOTE
Yeas: Folberg, Isaksen, Edwards, Schafer, Slanga, White
Nays: None
Absent: Rontal

7. SPEED BOARD REQUEST ON WOODWARD AVE.

Commander Grewe recalled that in March the City received a request from a resident to have a speed monitoring/display board on northbound and southbound Woodward Ave. north of Oakland. The resident expressed concerns regarding the speed of vehicles southbound on Woodward Ave. north of Birmingham, as they enter the City from a less congested area, and vehicles speeding on northbound Woodward Ave. from Oakland

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due to entering a less congested area. The resident is concerned due to pedestrian crossings at Oakland and Oak. Woodward (M-1) is an M-DOT roadway. The resident stated he had already contacted M-DOT whose safety engineer advised the request would have to come from the City.

There must be a formal speed study on file less than two years old. M-DOT was contacted and advised there was no recent speed study available. M-DOT stated if a speed study was requested the City must agree that changes in speed limits may occur based on the 85th percentile speed prior to a test being completed. After the test is completed and the speed limit is deemed appropriate, the City can complete a permit application for the placement of a changeable "YOUR SPEED" sign. The City would be responsible for all associated costs of a sign. The city must also agree to follow-up speed studies conducted by M-DOT at six and twelve months. If the studies do not show a significant decrease in speed of more than 5 MPH, M-DOT reserves the right to remove the sign.

The resident was contacted and made aware of the formal process required through M-DOT. The resident asked that no speed study be conducted out of concern the speed limit may be increased; however suggested the "YOUR SPEED" sign still be installed. The installation of such a sign must go through the M-DOT process.

M-DOT indicated they were not aware of an area like Woodward Ave. where this type of speed display board is in use. They expressed concern of not being able to provide accurate information and stated when multiple vehicles are going in the same direction the drivers would have no way of knowing whose speed is being displayed. Staff shares the same concerns as the resident, a speed study with the M-DOT terms is something the City would not want to participate in at this time. Staff also believes that posting a speed board may cause confusion to drivers (not knowing whose speed is being displayed) would not be appropriate.

Commander Grewe explained for Ms. Folberg that the 85th percentile is deemed to be the reasonable speed that people can travel safely. When a traffic complaint is received what they typically do is provide extra enforcement to the area so that officers are visible. Mr. Isaksen noted the City's options are somewhat limited because of the fact that Woodward Ave. is M-DOT's road.

Ms. Ecker advised Ms. Edwards that DPS is currently working with M-DOT to get money for more trees in the median so that people will be encouraged to slow down. The trees should be planted in the Fall.

The board's consensus was to take no action on the speed board matter.

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8. BIKE SHARE PROGRAM

Ms. Ecker advised that the City of Birmingham is currently exploring the possibility of implementing a bike share program. At the Long-Range Planning Meeting with the City Commission there was consensus that it would be a good idea to look into. At this point there is no funding for it. There are different ways these programs can be funded. The benefits are:

- Provides an additional mode of travel for people;
- Decreases reliance on automobiles;
- Provides that last mile link for commuters when they get off and their destination is still far.
- Helps circulation between Downtown and Triangle District, Rail District, and commercial areas throughout town;
- Provides the means for a pleasurable tour around town.

There are all kinds of urban bike sharing systems catering to visitors as well as local residents. All are based on one or more of the following systems:

Unregulated
Bicycles are simply released into a city or given area for use by anyone. Bikes are found by GPS. Users are expected to leave the bike unlocked in a public area once they reach their destination. Because users are not required to return a bike to a centralized station, ready availability of such bicycles is rare. Bike sharing programs without locks, user identification, and security deposits have historically suffered large los rates from theft and vandalism.

Deposit
A small cash deposit releases the bike from a locked terminal and can only be refunded by returning it. Since the deposit is a fraction of the bike's cost, this does little to deter theft. Other bike sharing programs have required users to provide a valid credit card, substantial security deposits and mandatory security locks.

Docked
Bicycles are kept either at volunteer-run hubs or at self-service terminals. Individuals registered with the program identify themselves with a membership card or other methods at any of the hubs to check out a bicycle for a short period. The individual is responsible for any damage or loss until the bike is returned to another hub and checked in. The operator withdraws money from the user's credit card account if user does not return the bike within the subscription period, or damages the bike.

Dockless
Dockless bike shares are designed whereby a user need not return the bike to a station; rather, the next user can find it by GPS. Riders may have to find an alternative mode for return trips, as another user could have checked out the bike they initially rode.

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Long-Term Checkout
Bicycles may be lent for free, a refundable deposit, or a small fee. A user checks out a bike and typically keeps it for days. A disadvantage of this system is a lower usage frequency per day.

Partnership with other Transportation Providers
Some bike share programs collaborate with other transportation providers, such as bus and rail systems.

Bikes

Many bike share programs paint their bicycles in a bright solid color; this helps to advertise the program and deter theft. Many large-scale bike sharing programs have designed bikes using specialized frame designs and other parts to prevent disassembly and resale of stolen parts. When users can return bicycles to any station in the system, they are more likely to use a bike for one-way rides. Thus, one bike may take ten to fifteen rides a day with different users and can be ridden up to 6,200 miles a year.

Most bike shares use traditional two-wheeled bikes. However, other bikes can accommodate users who struggle to or cannot use traditional bikes. Adaptive bikes are designed to be inclusive of riders with disabilities, although they are not exclusively for special needs individuals.

Next Steps

A feasibility study can provide the information necessary to determine if bike sharing makes sense for the City, and if so, how to move forward with implementation. A feasibility study should last for at least a year; two to three years is ideal. Less than a year does not allow for riders and potential riders the opportunity to gain familiarity with the system or for the system to gain momentum. The estimated cost for a feasibility study is $100 thousand; however, Zagster offers a free feasibility study.

If the City decides to implement a bike share, the following options are available:

- Manage own bike share;
- Contract with a bike share agency which includes a joint venture with another city.

The nearest Southfield bike share station is located on Evergreen just south of Eleven Mile Rd. Birmingham's border at Fourteen Mile Rd. is approximately a 20-minute bike ride from that station. This close proximity could open the possibility for a partnership between the two cities.

Mr. Isaksen pointed out that if Detroit can get 100 thousand rides on their system in the first five months, surely it would be worth Birmingham's time on a smaller scale to look

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into this. He would like to know what Southfield's ridership is and what their opinion is of Zagster.

Ms. Schafer said if she were to use a bike she would need one near to her neighborhood or near her office. Bike share sounds really cool, but is Birmingham the place to implement it.

Ms. Edwards announced she has very little appetite for this because Birmingham is less than five square miles and the residents have plenty of access to bikes. First she would like to see the City improve the biking infrastructure and make it safe.

Ms. Folberg thought it is pleasant to be downtown on foot. She wouldn't dream of riding a bike there.

Ms. Ecker suggested they could call Huntington, IN, which is a suburb of Indianapolis, to see how bike share is working there. She noted that City employees say they don't want to go out for lunch because they are afraid of not being able to find a parking spot when they return.

Commander Grewe commented that if the use of bikes Downtown is pushed people will end up biking on the sidewalk. After reconstruction, Old Woodward Ave. will not end up with bike lanes, only sharrows.

It was discussed that the Neighborhood Connector Route is in pieces and can't be used the way it is intended. Maybe the priority should be to finish the Connector Route and then invite people to use it. Finish it in large swaths, not just segment by segment when a street is being re-paved.

Board members agreed that they need to understand the financials behind the implementation of bike share and whether it will it be a major expense for the City.

Mr. Isaksen wondered in terms of usage and the last mile, whether there would be a fair amount of usage from the FAST bus stop as the SW corner of Woodward Ave. and Maple Rd. He thought the way to promote bicycling in the City is to try everything they can think of and see if it works.

Chairperson Slanga said she would like to hear more from transit riders as to the last mile problem. Mr. Isaksen replied that Transit Riders United ("TRU") is the place to go for that information.

Ms. Schafer said the group needs to explore the ways that a bike share program can be used and the limitations with which it can be used. Right now Old Woodward Ave. is being constructed without bike lanes. A feasibility study would provide demand and usage information.

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The board was lukewarm on exactly how the City would use bike sharing.

Ms. Ecker summed up the discussion so far as to what the board would like to see:

- Usage data;
- More information about Southfield's experience;
- A reference on Zagster;
- A City Bike contact;
- Contact Huntington, IN, and other cities that are more comparable to Birmingham;
- Financial details of how other cities work out their programs and what the cost to the City can be;
- Some key areas for locations of bike stations;
- Transit input on commuters' destinations after getting off - talk to TRU;
- See what type of bike structure other cities with bike share have;
- Public feedback from people who work in Birmingham on how they might use bike sharing and what their reservations might be.

Mr. O'Meara added that Zagster could look into setting up bike stations at the shuttle lots for employee parking (the last mile).

9. MEETING OPEN TO THE PUBLIC FOR ITEMS NOT ON THE AGENDA

(no public was present)

10. MISCELLANEOUS COMMUNICATIONS

- Ms. Ecker informed the group that the City Commission has approved the temporary striping plan for S. Eton. They also approved the crosswalk material standards. However, the residential street standards will be coming back to this board at the next meeting. The City Commission wanted the verbiage changed to cover some additional areas, including more language on the goals of the standards.

- The Planning Dept. is getting ready to update the city-wide Master Plan and part of their consultant selection process is to create an Ad Hoc Master Plan Selection Committee. A MMTB member is needed to join the representatives from other City Boards along with residents that will form the Committee. Ms. Folberg volunteered her services.

  Motion by Mr. Isaksen
  Seconded by Ms. Edwards to appoint Amy Folberg as the MMTB representative to the Ad Hoc Master Plan Selection Committee.

  Motion carried, 6-0.

  VOICE VOTE
  Yeas: Isaksen, Edwards, Folberg, Schafer, Slanga, White

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Nays: None
Absent: Rontal

11. NEXT MEETING JULY 12, 2018 at 6 p.m.

12. ADJOURNMENT

No further business being evident, the board members adjourned at 7:40 p.m.

_____
Jana Ecker, Planning Director

_____
Paul O'Meara, City Engineer

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City of Birmingham
A Walkable Community

MEMORANDUM

Engineering Dept.
Planning Department
Police Dept.

DATE: **July 3, 2018**

TO: **Multi-Modal Transportation Board**

FROM: **Jana Ecker, Planning Director**
Scott Grewe, Police Dept.
Paul O'Meara, City Engineer

SUBJECT: **Residential Street Width Standards**

On January 22, 2018, the City Commission considered future street widths for Bennaville, Chapin and Ruffner. Several residents appeared on behalf of Bennaville Ave., and additional residents appeared on behalf of the one block of Chapin Ave. After much discussion, the City Commission endorsed the recommendations of the Multi-Modal Transportation Board ("MMTB") with regards to the future street width. However, during the discussion, the Commission expressed confusion as to what the City's policy is for determining the width of a new street. As a result, the MMTB was asked to study the issue in further detail, and send information and policy direction back to the Commission.

Accordingly, in March 2018, the MMTB began their discussion by identifying goals for residential road width standards, and reviewed the national standards and best practices from professional organizations and peer cities. The board agreed that standards should be created, but that there may be factors to permit some modifications if certain criteria are met.

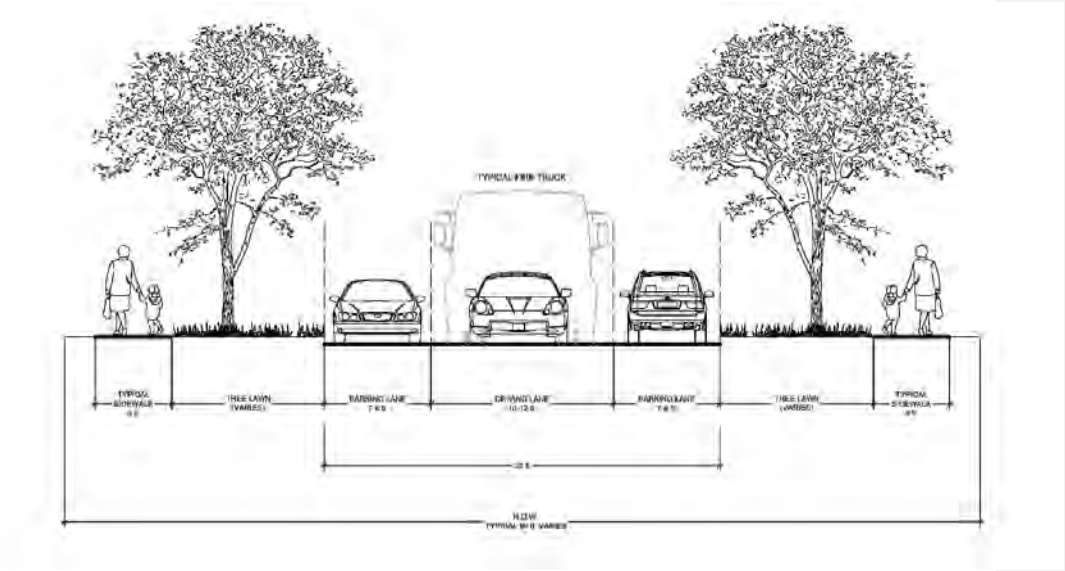
On May 3, 2018, the Multi-Modal Transportation Board passed a unanimous motion to recommend approval of Residential Street Width Standards to the City Commission. On May 18, 2018, Planning Director Ecker presented the revised Residential Street Widths Standards to the City Commission. The Commission concluded that the document should be returned to the MMTB to approve suggested edits to the document. The edits are presented in red in the document. Please find attached all research considered by the MMTB, draft standards and all staff reports and minutes from the MMTB and the City Commission discussions for your review.

Suggested Action:

To recommend approval to the City Commmission of the revised Residential Street Width Standards.

POLICY STATEMENT

BIRMINGHAM RESIDENTIAL STREET DESIGN STANDARDS



INRODUCTION

The City Commission asked the Multi-Modal Transportation Board (MMTB) to establish a City policy for determining the width of a new street. Accordingly, the MMTB identified goals for residential road width standards, and reviewed the national standards and best practices from professional organizations and peer cities. The board created standards and allowed for modifications if certain criteria are met.

INTENT: The purpose of these standards is to provide consistent street widths throughout the city but with flexibility for very specific situations. The goals for identifying a standard road width for residential roads include the following:

- Functionality;
- Consistency with adjacent streets;
- Accident reduction and public safety;
- Complete streets;
    - Enhance walkability;
- Character of community;
    - Block length;
    - Size of lots;

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- Building setback and lengths;
- Traffic calming;
- Expediency in planning and engineering;
- Infrastructure costs; and/or
- Storm water runoff management.

The following standards are based on residential street design recommendations published by American Association of State Highway and Transportation Officials (AASHTO), the Institute of Transportation Engineers (ITE), the Urban Land Institute (ULI), the Congress for New Urbanism, National Association of City Transportation Officials (NACTO), and those used by peer cities. Using those standards as a base, these standards are also based on emergency response access, winter weather, the existing street widths in the city, and the characteristics of different neighborhoods in the City. These widths typically allow for parking along both sides of the street with room for a vehicle to pass in one direction. When there is opposing traffic (vehicles going both ways) one of the motorists will need to yield to the other. This is commonly classified as a "Yield" or "Courtesy" Street.

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STREET DESIGN STANDARDS (see also attached flow chart):

1. **NEW AND EXISTING, UNIMPROVED RESIDENTIAL STREETS THAT ARE BEING IMPROVED**

   When streets are improved or newly constructed, the standards below shall be strictly applied:

   a. **Standard Streets:** 26 ft. in width from curb to curb.
   b. If the right-of-way is less than 50 ft., the street width shall be a minimum of 20 ft. with parking allowed on one side only (generally the side without fire hydrants).

2. **EXISTING, IMPROVED RESIDENTIAL STREETS**

   When previously built streets are reconstructed, this standard shall generally be applied. Exceptions may be considered when factors, such as those described in Section 4, are evident.

   Standard Streets: 26 ft. in width from curb to curb.

   Existing Street is 28 feet or less in width: If existing street width is 28 ft. or less in width, street ~~shall~~ may generally be reconstructed at the existing width provided there is a reason present under section 4.

3. **PUBLIC NOTICE AND PUBLIC HEARING**

   Whenever there is a street project where a change in the existing width is being considered, the Multi-Modal Transportation Board shall have a Public Hearing to inform residents of the project and provide an opportunity for comment. The City shall post a sign along the street that announces street project. Design details shall be advertised and posted on the City's website. If residents express a desire for a non-standard street width at a public meeting or through a public survey of street residents, those preferences shall be considered. However, engineering or safety factors listed in Section 4 must also be present to support a design exception.

4. **EXCEPTIONS AND MODIFICATIONS TO THE WIDTH STANDARDS**

   Any modification must be consistent with the Intent of these standards and the engineering publications upon which they are based. Street width exceptions may only be approved to a minimum of 20 ft. and a maximum of 30ft. If residents express a desire for a non-standard street width at a public meeting or through a public survey of street residents, those preferences shall be considered(either wider or narrower) ~~Modifications to street widths may~~ only ~~be considered~~ if one or more of the following conditions exist:

   a. High or low frequency of use of on-street parking. When surveyed on-street parking is utilized 15% or less overnight, the width may be reduced. When parking density is classified as highly utilized, defined as over 25% occupancy throughout the day or more than 50% of the available curb space used overnight, the width may be increased. For calculation of parking, a minimum length of 22 ft. shall be used and not include driveways, spaces adjacent to fire hydrants, or other locations where parking is not allowed.
   b. Daily traffic volumes exceed 1500 vehicles.

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c. The street is a published school bus route used by the Birmingham Public Schools or is a frequent emergency response route.
d. Street is adjacent to a school, religious institution, City park, multiple-family residential development, or other use with access that generates higher traffic volumes.
e. Presence of street trees, especially healthy, mature trees, such that rebuilding the road as proposed would result in the removal of two or more trees on any given block.
f. A speed study confirms that the 85th percentile speed is more than 5 miles per hour over the posted speed limit and/or city police or engineering departments have documented operational or safety concerns related to traffic patterns along the street.
~~g.~~ Street may be as narrow as 20 ft. with parking on one side only if right-of-way is less than 50 ft.

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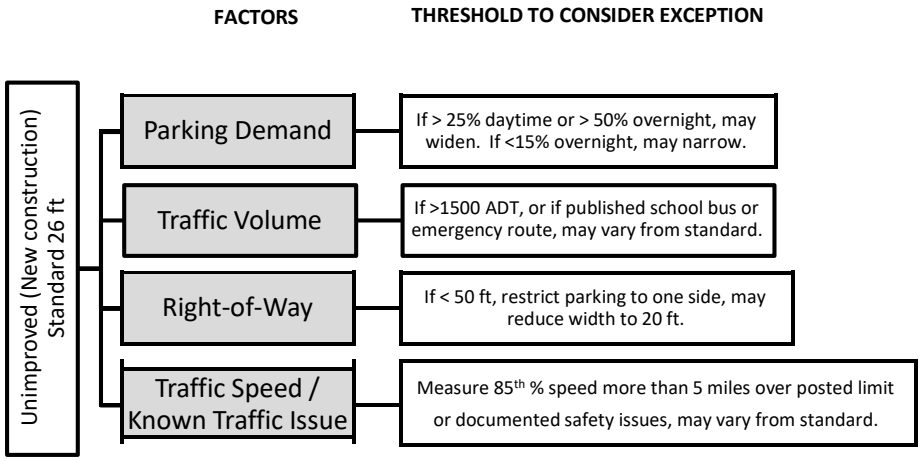
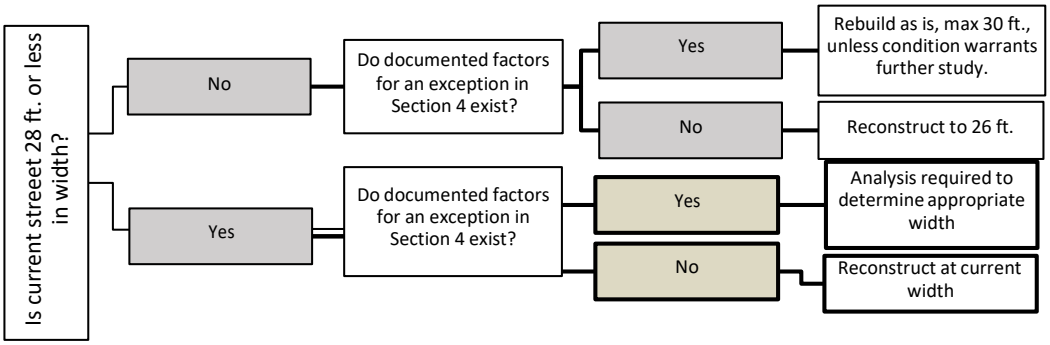
5. BOULEVARD STREETS

Reconstruction of streets with a boulevard, median, or other unique design feature, shall be reconstructed to match the current configuration unless geometric changes are needed based on safety or engineering analysis.

BIRMINGHAM RESIDENTIAL STREET DESIGN STANDARDS



RECONSTRUCTION OF IMPROVED STREET



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City of Birmingham
A Walkable Community

PUBLIC NOTICE

STREET WIDTH PUBLIC HEARING SCHEDULED
MULTI-MODAL TRANSPORTATION BOARD
YOUR INPUT IS REQUESTED
248-530-1850
www.bhamgov.org/publicnotices

Notice Sign
Located on streets with speed limits of 25 mph

MEMORANDUM

Engineering Dept.
Planning Department
Police Dept.

DATE: **July 3, 2018**

TO: **Multi-Modal Transportation Board**

FROM: **Jana Ecker, Planning Director**
Scott Grewe, Police Dept.
Paul O'Meara, City Engineer

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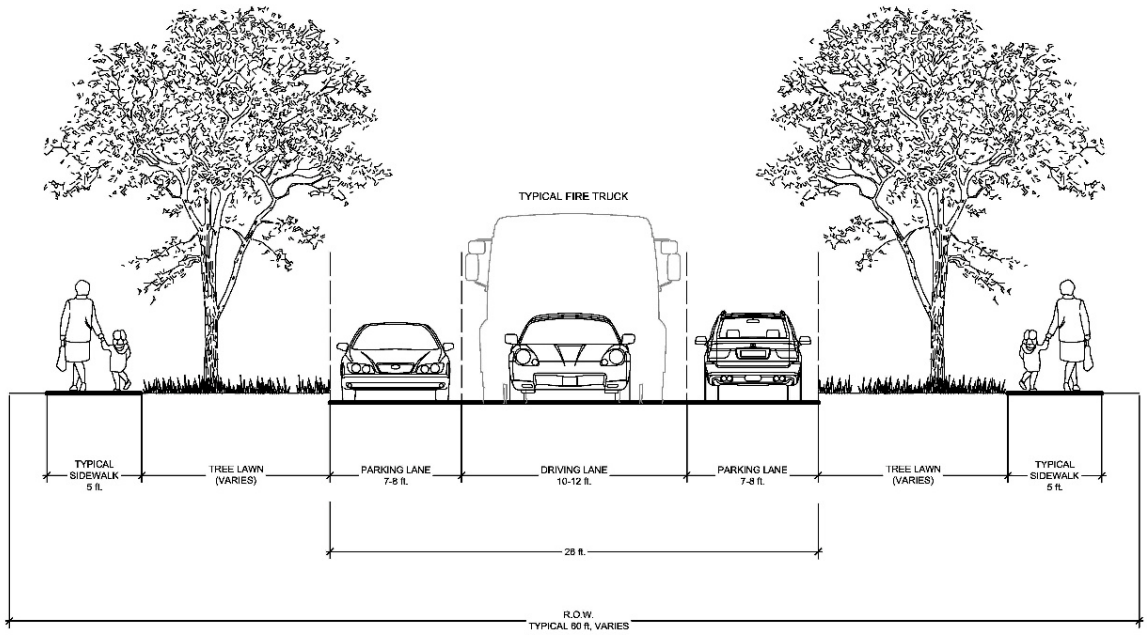

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- Complete streets;
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    - Building setback and lengths;
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   b. If the right-of-way is less than 50 ft., the street width shall be a minimum of 20 ft. with parking allowed on one side only (generally the side without fire hydrants).

2. **EXISTING, IMPROVED RESIDENTIAL STREETS**

   When previously built streets are reconstructed, this standard shall generally be applied. Exceptions may be considered when factors, such as those described in Section 4, are evident.

   Standard Streets: 26 ft. in width from curb to curb.

   Existing Street is 28 feet or less in width: If existing street width is 28 ft. or less in width, street may generally be reconstructed at the existing width provided there is a reason present under section 4.

3. **PUBLIC NOTICE AND PUBLIC HEARING**

   Whenever there is a street project where a change in the existing width is being considered, the Multi-Modal Transportation Board shall have a Public Hearing to inform residents of the project and provide an opportunity for comment. The City shall post a sign along the street that announces street project. Design details shall be advertised and posted on the City's website. If residents express a desire for a non-standard street width at a public meeting or through a public survey of street residents, those preferences shall be considered. However, engineering or safety factors listed in Section 4 must also be present to support a design exception.

4. **EXCEPTIONS AND MODIFICATIONS TO THE WIDTH STANDARDS**

   Any modification must be consistent with the Intent of these standards and the engineering publications upon which they are based. Street width exceptions may only be approved to a minimum of 20 ft. and a maximum of 30ft. If residents express a desire for a non-standard street width at a public meeting or through a public survey of street residents, those preferences shall be considered(either wider or narrower) only if one or more of the following conditions exist:

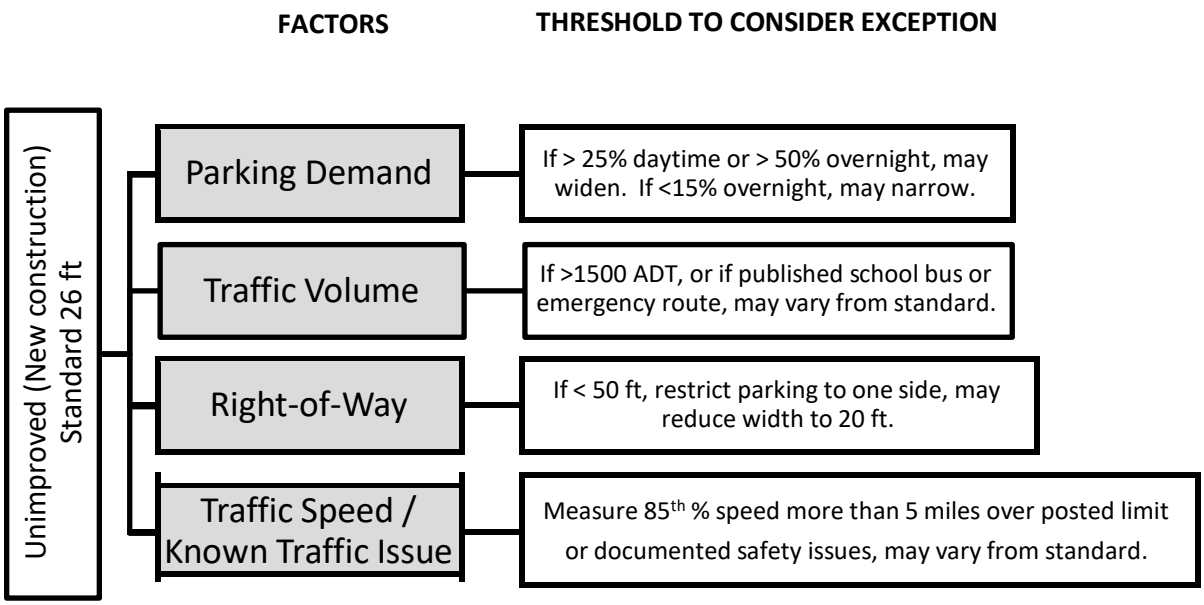
   a. High or low frequency of use of on-street parking. When surveyed on-street parking is utilized 15% or less overnight, the width may be reduced. When parking density is classified as highly utilized, defined as over 25% occupancy throughout the day or more than 50% of the available curb space used overnight, the width may be increased. For calculation of parking, a minimum length of 22 ft. shall be used and not include driveways, spaces adjacent to fire hydrants, or other locations where parking is not allowed.
   b. Daily traffic volumes exceed 1500 vehicles.

c. The street is a published school bus route used by the Birmingham Public Schools or is a frequent emergency response route.
d. Street is adjacent to a school, religious institution, City park, multiple-family residential development, or other use with access that generates higher traffic volumes.
e. Presence of street trees, especially healthy, mature trees, such that rebuilding the road as proposed would result in the removal of two or more trees on any given block.
f. A speed study confirms that the 85th percentile speed is more than 5 miles per hour over the posted speed limit and/or city police or engineering departments have documented operational or safety concerns related to traffic patterns along the street.
g. Street may be as narrow as 20 ft. with parking on one side only if right-of-way is less than 50 ft.

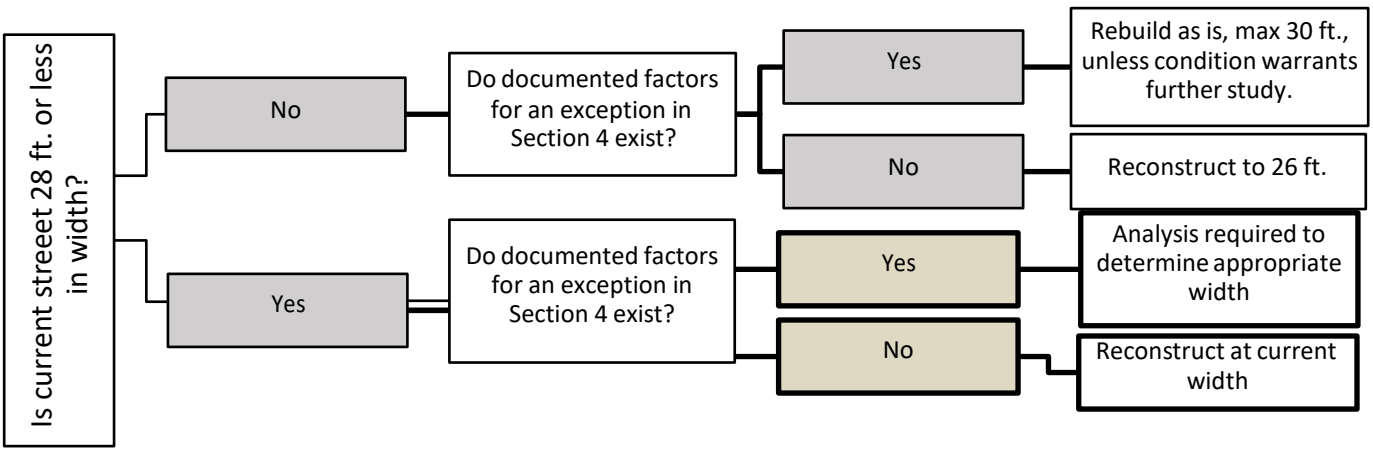
5. BOULEVARD STREETS

Reconstruction of streets with a boulevard, median, or other unique design feature, shall be reconstructed to match the current configuration unless geometric changes are needed based on safety or engineering analysis.

BIRMINGHAM RESIDENTIAL STREET DESIGN STANDARDS



RECONSTRUCTION OF IMPROVED STREET



City of Birmingham
A Walkable Community

MEMORANDUM

Engineering Dept.
Planning Department
Police Dept.

DATE: **February 23, 2018**

TO: **Multi-Modal Transportation Board**

FROM: **Lauren Chapman, Assistant City Planner**
Scott Grewe, Police Dept.
Paul O'Meara, City Engineer

SUBJECT: **Street Widths- History**

The Multi-Modal Transportation Board (MMTB) recently reviewed conceptual designs for three local streets planned for reconstruction in 2018. A public hearing was held, and a final recommendation for the streets was passed on to the City Commission on a vote of 4-3. As you may recall, at the public hearing, several residents appeared before the Board asking that Bennaville Ave. not be reduced in width (as proposed). A smaller number of residents appeared asking that the block of Chapin Ave. east of Cummings St. also not be reduced in width.

When the City Commission reviewed the issue at their meeting of January 22, 2018 several residents again appeared on behalf of Bennaville Ave., and additional residents appeared on behalf of the one block of Chapin Ave. After much discussion, the City Commission endorsed the recommendations of the MMTB, also on a vote of 4-3. As a part of the discussion, the Commission expressed confusion as to what the City's policy is for determining the width of a new street. As a result, the MMTB was asked to study the issue in further detail, and send information and policy direction back to the Commission.

GOALS

The goals for identifying a standard road width, for residential roads are: functionality, consistency, accident reduction, traffic calming, expediency in planning and engineering, infrastructure costs. A standard does not mean that all streets will be uniform; a standard creates a basis for consideration.

HISTORY

The majority of the public rights-of-ways in Birmingham were created prior to World War II. In this era, cities accepted new public streets from developers with little investment. Streets were typically gravel, and often lacked drainage outlets. As subdivisions became more populated and expectations rose, residents looked to the City to get their street paved. As was standard practice then (as it is now), cities can

construct a localized improvement such as a new street pavement, and charge the adjacent property owners for some or all of the cost. Under this guideline, some streets were paved as early as the 1910's, while others have never been paved. In Birmingham, unpaved streets began being oiled and then chip sealed starting in the late 1940's, removing many of the problems generally experienced with gravel roads.

In order to get a road paved, residents petition the City and request the improvement. The improvement is generally not considered until a petition showing that over 50% of the owners are in favor of the idea can be presented. High costs today continue to keep the number of streets being paved relatively low. Recently, the City Commission has authorized the formation of an Unimproved Streets Study Committee that will be meeting to discuss the special assessment procedure in detail, and potentially considering alterations to that policy as well.

In Birmingham, once a street has been constructed with a permanent pavement, the City has promised to maintain it into the future, at no additional cost to the adjacent property owners. Since a local street typically has a service life of 60 to 90 years, discussions pertaining to the policy of the width for a new street have always pertained to the construction of new streets that have never had a pavement with curbs. The current policy, passed in 1997, also focused exclusively on the construction of new streets. Since reconstruction of existing streets had not been frequent, even at that time, the unwritten expectation has been that the road would be reconstructed to match the road as it was built the first time.

The following describes the standards passed for new street paving projects, as of 1977:

<u>1977</u>
In 1977, the City Commission adopted Engineering Design Standards relating to pavements and street widths. These standards were in existence prior to this date and formalized by the Commission at that time. The City was substantially consistent with the city design standards when recommending street improvements.

These standards note the width of roads in relation to the level of use it gets. It was divided into three categories: streets in commercial areas, streets in residential areas, and cul-du-sacs. The adopted standard was for a 36 foot street in commercial areas, and 28 foot width in residential area. Residential cul-du-sacs maintain a 24 foot width.

<u>1994</u>
During the public hearing for Henrietta Street the City Commission directed city staff to examine the existing policy pertaining to street improvements as it relates to street widths. Goals included letting the public know what the benefits are to the property owners for making these street improvements, what the design standards are, and what options may be available to them when requesting this improvement.

City Commissioners suggested that standards be set so these details need not be revisited each time a street is recommended for improvement. It was the Engineering Department's opinion there existed standards that the City has substantially followed when making recommendations throughout the years.

The City Commission reviewed which streets were fire routes and per the recommendation by the fire chief adopted a standard of 29 feet for residential streets.

1996

At the December 16, 1996 City Commission meeting three local streets were approved for permanent surface improvements. In conjunction with the discussion it was suggested the issue of residential street widths be placed on the agenda for the 1997 Long Range Planning Meeting.

Downtown 2016 Plan

The Downtown Birmingham 2016 Plan is a master plan that was created in 1996 and was intended for use for the next twenty years. Pages in the appendix of the plan recommended street widths based on type and rationale for the widths in the form of a decision tree and examples from AASHTO and the City of Portland. The recommended width for a "subcollector" road (similar to the typical Birmingham residential street) was 28 ft.

1997

The City Commission voted to reduce the residential street width standard by 2 feet to 26 feet, with parking on two sides and 20 feet with parking on one side.

2013

In 2013, the City Commission created a steering committee to oversee the creation of a Multi-Modal Transportation Master Plan. The consultant The Greenway Collaborative was hired to prepare the plan. During this process, the steering committee not only worked with the consultant, they also helped direct the final cross-sections for the important collector streets planned for 2014:

Lincoln Ave. – Southfield Rd. to Woodward Ave.
N. Eton Rd. – Derby Rd. to Yorkshire Rd.

The Multi-Modal Transportation Master Plan was adopted in 2014 as a long term guide to the City's transportation network. A new Multi-Modal Transportation Board was formed to help oversee the implementation of the new plan, as well as take over the duties of the former Traffic & Safety Board.

Since then, the new board has studied each of the City's upcoming street projects from a multi-modal perspective.

2018 Local Street Paving Program

This year the City will be reconstructing three streets first paved in the late 1940's (Bennaville Ave., Ruffner Ave., and Chapin Ave.). Staff approached this study with two objectives:

1. The Master Plan did not provide any recommendations on the three streets. Even so, a closer discussion with input from the Board may result in possible refinements to the current conditions.
2. While the unwritten policy of rebuilding streets at their current widths should be used as a starting point, staff had identified some potential issues with following this approach on these three streets:
   a) Bennaville Ave. was constructed at a width (32 ft.) much greater than current policy would dictate. The Board would provide an avenue to open the discussion about the benefits and/or drawbacks of reconstructing the street to match the current standard of 26 ft.
   b) Portions of Ruffner Ave. and Chapin Ave. were first constructed at 28 ft. These same sections also had several mature trees growing immediately adjacent to, or on top of, the old curb. Reconstruction of the streets at this width would mean automatically removing several mature trees. However, reducing the widths to 26 ft. (thereby matching the current standard), would give us the ability to attempt to save the majority of them.

As discussed above, both the MMTB and the City Commission struggled with the decisions as to whether to narrow the streets for the reasons listed above. The recommendations of the Board stirred up strong feelings among residents on two of the streets. As a result, split votes resulted both at the Board level, as well as at the City Commission level. The Board is now being asked to research national standards for residential road widths, the advantages and disadvantages of narrow and wide streets, determine what other cities are using as standards for constructing or reconstructing streets, and to consider detailed standards for use in the City of Birmingham. The City Commission also asked for some guidance on when (or if) to allow variance from these standards. The following is meant to be a draft outline that is intended to stimulate input from the Board. Once the input is received, staff will attempt to finalize a new policy statement on this issue for the future.

CURRENT POLICY REGARDING STREET WIDTHS

UNIMPROVED STREETS

From staff's perspective, the current standards for unimproved streets, now in place since 1997, have worked well.

As shown on the attached list at the end of this report, the current street width policy has been followed. Once a new street is constructed, very few, if any, complaints are

ever received from residents relative to the street width used for their new street. Residential sections have been consistently built at 26 ft., and commercial sections have been built at 36 ft., as directed in the policy. An option for a 20 ft. street also exists, which residents can consider if they so desire. Unique circumstances such as needing to accommodate a student drop off area at a parochial school (on Harmon St.) have also worked well.

Given the positive track record of the past 20 years, staff would recommend that the current policy concerning street widths for unimproved streets continue to be the starting point in the discussion. If future streets are subject to changes by the MMTB, it will be important to consider that creating a petition that shows that over 50% of the residents are in favor of a special assessment can be a difficult and time consuming process. If the MMTB were to enter the discussion after the petition has been created, this may result in some signers no longer supporting the project, which could then jeopardize the whole project. How and when the MMTB is involved in this process needs to be considered.

IMPROVED STREETS

The City is financially responsible for the reconstruction of improved street pavements that are nearing the end of their lifespan. Reconstruction offers the opportunity to review the current conditions in light of current standards, and consider if there is a potential need for change. Factors to consider in this discussion currently include, in alphabetical order:

1. MULTI-MODAL IMPROVEMENTS – A review of the Master Plan is required to be included with each street review. If ideas were provided in the Master Plan, the Board considers the recommendations in their totality to verify if they should be implemented as a part of the upcoming project. If there are no specific recommendations in the Master Plan, the Board will discuss improvements that can be included that would bring multi-modal improvements to the area.

2. NEIGHBORHOOD DENSITY – The board also considers the extent to which the land uses and density of uses on the street impact parking demand. The board reviews whether there are any unique conditions that would result in less or more than the usual parking demand. If parking demand is less than normal, should parking be limited to one side of the street, and if so, the board will consider which side of the street may be better for on-street parking

   OWNER PREFERENCE – The board holds a public hearing on all proposed road improvements to gather input from adjacent residents and property owners. While the City may have established guidelines and attempt to follow current best practices in the industry, the property owners living on the street often have preferences that are counter to the direction that the best practice standards would dictate.

3. RIGHT-OF-WAY – The board also considers the existing right-of-way for each street. Most local streets have an existing right-of-way between 50 and 60 ft., with which the current 26 ft. wide standard works well. If the right-of-way is less than 50 ft. however, the board may consider a narrower street in order to provide the required space for City sidewalks and street trees.

   TRAFFIC ISSUES – The board will conduct a review of the history of traffic issues on a street, which typically includes a review of speeding and cut-through traffic complaints. Staff can provide speed and traffic count data with each street being studied.

4. TREES – Finally, the board will consider the location and health of the existing tree canopy when considering the width for a reconstructed street. Streets with 50 ft. rights-of-way (or less) tend to have conditions where trees are given less than ideal conditions to grow, due to lack of space. If a street has mature trees that can be damaged or require removal during a street reconstruction project, these factors need to be considered.

Attached are two lists that indicate the history of street construction going back to 2000. The first list documents local streets that have been reconstructed. Comments are added in the right column if unique circumstances dictated that the street be rebuilt at a width different than what was done the first time. The second list documents all local streets built with a new pavement for the first time since 2000. Comments added on the right column describe conditions where the pavement was built at a width other than the standard, due to unique circumstances.

REVIEW OF BEST PRACTICES AND NATIONAL STANDARDS

Please find attached a letter from MKSK with attachments that summarize their research on national standards and best practices for residential street design. MKSK has reviewed numerous sources and compiled their findings for your review and discussion. In addition, MKSK has surveyed local peer communities to determine residential street standards for other Michigan communities.

As stated above, this is a topic that requires discussion and input from the Board before being finalized. The Board is encouraged to consider the factors above, as well as others that they may wish to introduce, to help finalize a final policy recommendation for the consideration of the City Commission.

(Previously Unpaved)						
Street Name	**From**	**To**	**Year Built**	**Width, Face to Face (Feet)**	**Previous Width**	**Comments**
Davis	Grant	Woodward Alley	2000	26	NA	
Davis	Woodward Alley	Woodward	2000	36	NA	Commercial Section
Willits	Greenwood	Chester	2000	26	NA	
Watkins	Brown	Lincoln	2001	20	NA	Width directed by Commission after resident survey was split 50/50
Stanley	Hanna	Wallace	2001	26	NA	
Henrietta	Frank	Lincoln	2001	26	NA	
Hazelwood	Oak	Vinewood	2003	26	NA	
Oak	Lakeview	Greenwood	2003	20	NA	40 Foot Right-of-Way
Knox	West End	Poppleton	2003	26	NA	
Humphrey	Grant	Woodward Alley	2004	26	NA	
Humphrey	Woodward Alley	Woodward	2004	36	NA	Commercial Section
S. Worth	Haynes	Alley	2005	36	NA	Commercial Section-Matches remainder of block
Harmon	Lakeside	West of Old Woodward	2005	26	NA	Except as noted on next two lines
Harmon	Greenwood	Woodland	2005	32	NA	Widened to accommodate bus loading area at Holy Name
Harmon	West of Old Woodward	Old Woodward	2005	36	NA	Adjacent Booth Park, contains metered parking
Washington	Lincoln	14 Mile	2005	26	NA	
Fairway	330 Ft. W. of Pleasant	Pleasant	2005	26	NA	
Northlawn	Stanley	Washington	2005	26	NA	
Greenwood	Harmon	Willits	2006	26	NA	
Wakefield	Southfield Alley	Southfield	2006	34	NA	Commercial section with head-in parking beyond
Greenwood	Oak	Harmon	2007	26	NA	
Baldwin	Harmon	Randall	2008	26	NA	
Baldwin	Randall	Maple	2008	20	NA	As requested by residents
Clark	George	Lincoln	2014	26	NA	

(Reconstruction)						
Street Name	**From**	**To**	**Year Built**	**Width, Face to Face (Feet)**	**Previous Width**	**Comments**
Ruffner	Adams	Torry	2001	26	26	
Humphrey	Woodward	Torry	2001	26	26	
Bennaville	Woodward	Torry	2001	26	26	
Emmons	Grant	Cummings	2001	26	26	
Daines	Purdy	Old Woodward	2002	26	26	
Melton	Eton	14 Mile	2003	28	28	
Holland	Adams	Eton	2004	29	29	
Shipman	Southlawn	14 Mile	2005	28	28	
Birmingham	Lincoln	14 Mile	2005	32	32	
Henrietta	Lincoln	Northlawn	2005	28	28	
Northlawn	Shipman	Birmingham	2005	32	32	
Northlawn	Birmingham	Stanley	2005	28	28	
Northlawn	Washington	Pierce	2005	28	28	
Southlawn	Southfield	Shipman	2005	28	28	
Southlawn	Birmingham	Stanley	2005	28	28	
Yorkshire	Adams	East End	2006	24	24	
Rugby	Yorkshire	Maple	2006	24	24	
Cambridge	Dorchester	Maple	2006	24	24	
Southlawn	Pierce	Grant	2006	28	28	
Edgewood	Southlawn	14 Mile	2006	28	28	
Grant	Emmons	Davis	2006	28	28	
Buckingham	Adams	Cambridge	2007	24	24	
Dorchester	Adams	East End	2007	24	24	
Rugby	Buckingham	Yorkshire	2007	24	24	
Cambridge	Buckingham	Dorchester	2007	24	24	
Aspen	Maple	Hawthorne	2008	18	16	Staff discussed with residents, determined old road was too narrow
Hawthorne	Maple	Linden	2008	18	16	Staff discussed with residents, determined

Street Widths- History

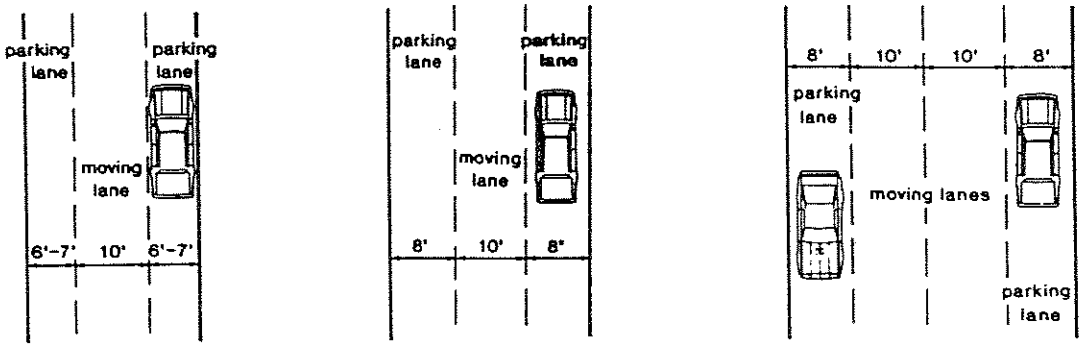
						old road was too narrow
Bowers	Adams	Hazel	2009	28	28	
Hazel	Bowers	Columbia	2009	28	28	
Pierce	Merrill	Brown	2009	40	40	
Townsend	Henrietta	Pierce	2009	32	32	
Bates	Martin	Brown	2010	36	36	
Henrietta	Martin	Brown	2010	32	32	
Townsend	Chester	Henrietta	2010	32	32	
George	Pierce	Old Woodward	2010	24	24	
St. Andrews	Pembroke	Maple	2011	28	28	
Graefield	Derby	Eton	2012	32	32	
Graefield Ct.	North End	Graefield	2012	26	26	
Pierce	Maple	Merrill	2013	40	40	
Merrill	Pierce	Old Woodward	2013	40	40	
Cole	Adams	Eton	2013	28	30	Narrowed in order to save large trees
Torry	Webster	Lincoln	2013	32	32	
Mohegan	Oxford	Adams	2014	24	24	
Kennesaw	Oxford	Adams	2014	24	24	
Oxford	Wimbleton	S. of Kennesaw	2014	24	24	
Poppleton	N. of Mohegan	S. of Kennesaw	2014	24	24	
Oak	Chesterfield	Lakepark	2015			

Residential STREETS

Second Edition

American Society of Civil Engineers
National Association of Home Builders
ULI—the Urban Land Institute

In 1986, the American Society of Civil Engineers (ASCE), the National Association of Home Builders (NAHB), and ULI-the Urban Land Institute (ULI) began discussing the need for a new book on residential streets to update and expand the general principles and design considerations outlined in the organizations' joint 1974 publication. Over the years, all three organizations have received inquiries into street design issues from developers, engineers, planners, and public officials. Agreeing on the need for a new book, ASCE, NAHB, and ULI established a task force composed of representatives of each organization. The task force members were charged with contributing material, reviewing and commenting upon drafts, and reaching consensus on the document. ASCE, NAHB, and ULI believe that their collaborative efforts will contribute to more appropriate residential street designs that balance considerations of safety and efficiency, cost effectiveness, livability, and community attractiveness.



access subcollector collector

EXCERPT FROM *RESIDENTIAL STREETS*

AASHTO—Geometric Design of Highways and Streets

Number of Lanes

On residential streets in areas where the primary function is to provide land service and foster a safe and pleasant environment, at least one unobstructed moving lane must be ensured even where parking occurs on both sides. The level of user inconvenience occasioned by the lack of two moving lanes is remarkably low in areas where single-family units prevail. Local residential street patterns are such that travel distances are less than 0.5 mi between trip origin and a collector street. In multifamily-unit residential areas a minimum of two moving traffic lanes to accommodate opposing traffic may be required. In many residential areas a 26-ft-wide roadway is typical. This curb-face-to-curb-face width provides for a 12-ft center travel lane and two 7-ft parking lanes. Opposing conflicting traffic will yield and pause on the parking lane area until there is sufficient width to pass.

In commercial areas where there will be several midblock left turns it may be advantageous to provide an additional continuous two-way left-turn lane in the center of the roadway.

Width of Roadway

Street lanes for moving traffic preferably should be at least 10 ft wide. Where feasible they should be 11 ft wide, and in industrial areas they should be 12 ft wide.

WHAT ARE SKINNY STREETS?

The City of Portland requires most newly constructed residential streets to be 20 or 26 feet wide, depending on neighborhood on-street parking needs. In the past, residential streets were required to be as wide as 32 feet. To achieve the benefits described below, the City reduced residential street widths.

Why create skinny streets in neighborhoods?

Allowing newly-paved residential streets to be narrower provides many benefits to area residents. Skinny streets help preserve neighborhood livability, while improving access to homes. Some benefits are:

Maintain neighborhood character.

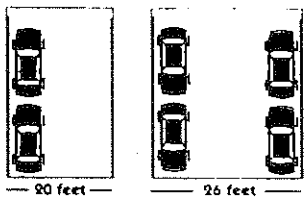
Construction of a wide paved street to replace a narrow unimproved road can change a neighborhood's atmosphere. Skinny streets reduce the impact on slopes and contours, on yards and on neighborhood self-image.

Lower construction costs.

Construction of narrower streets costs less. This means that residents who want to improve existing streets are able to do so for less money and developers can create new neighborhood streets less expensively.

Save vegetation & trees.

In existing neighborhoods, narrower paving widths reduce the need to cut trees and shrubs along the street.



Reduce stormwater runoff.

Paved streets are a major source of stormwater runoff. Pollutants from autos, as well as fertilizer, pesticides and other contaminants, are collected in stormwater, which flows into storm sewers. Eventually, this dirty water reaches area streams and rivers. Reducing pavement reduces stormwater runoff and allows more water to soak directly into the ground.

Encourage traffic safety.

Narrower streets discourages non-neighborhood traffic and force drivers to slow down.

Encourage better land-use.

As stewards of our natural resources, we know that streets aren't the best use of existing undeveloped land. With skinny streets, in new developments we have more room to house our growing population while reducing the amount of land reserved for traffic use.

Who decides on a street's width?

If you live on an unimproved street, you may be considering forming a Local Improvement District (LID) to complete your street. With an LID, you and the other property owners on your street would pay for improvements, and the City would be responsible for future maintenance.

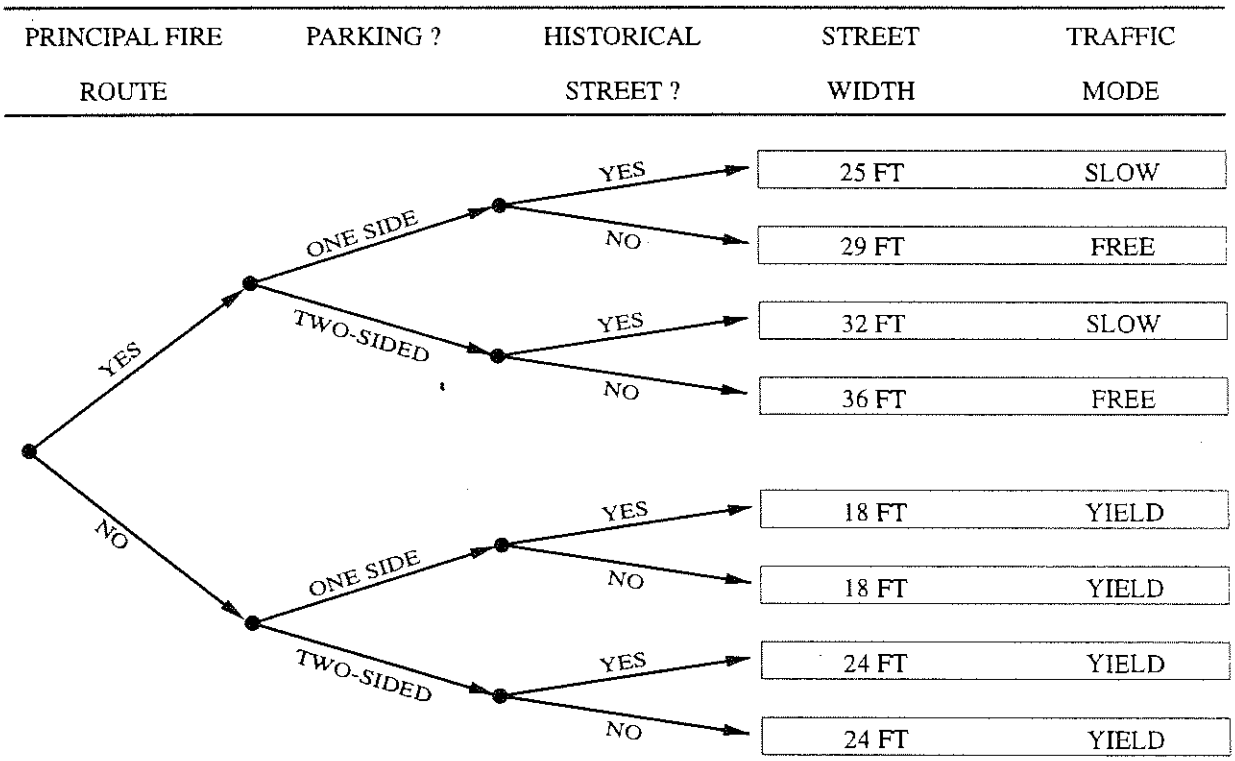
In that case, you and other participating property owners can help design what your street will look like. Collectively, you can decide if you want parking on one or both sides of the street. This will determine how wide the street will be.

In new neighborhoods, developers will select the street width they believe to be most appropriate within the city guidelines.

Can emergency vehicles reach my home?

The Fire Bureau participated in exercises in older neighborhoods with narrow streets. The Bureau found that street widths based on skinny street guidelines will provide adequate access for emergency vehicles.

EXCERPTS FROM *THE AASHTO MANUAL* AND *SKINNY STREETS*



STREET WIDTH DECISION TREE

Legend

Right_of_Way

- <all other values>

Right of Way

- Non-Local
- 20 ft
- 30 ft
- 40 ft
- 50 ft
- 60 ft
- 66 ft
- 70 ft
- 75 ft
- 80 ft
- 86 ft
- Alley
- Private

Legend

Curb_Face

- <all other values>

Face To Face Widths

- Unimproved Streets
- 16 ft
- 18 ft
- 20 ft
- 22 ft
- 24 ft
- 26 ft
- 28 ft
- 30 ft
- 32 ft
- 34 ft
- 36 ft
- 38 ft
- 40 ft
- 44 ft
- Not Paved

Big Beaver
Quarton
Ashford
Old Salem
Lakeside
Colonial
Redding
Westwood
Glenhurst
Lyonhurst
Brookwood
Chesterfield
Raynale
Willow
Adland
Bloomfield
Kenwood
Oak
Hazelwood
Vinewood
Woodland
Lakeview
Harmon
Alan
Barnie Beer
Dewey
Tooting
Randall
Willits
Melbourne
Kimberly
Pine
Winthrop
Fairview
Fairfax
Suffield
Puffin
Purdum
Lake Park
Millpace
Maple
Devon
Avon
Born Mark
Radnor
Berkley
Wellesley
Argyle
Midvale
Golfview
Westchester
Glenhurst
Larchlea
Merritt
Pleasant
Shirley
Brandon
Linden
Aspen
Hawthorne
Valley View
Maple Hill
Woodland Villa
Hillcrest
Hillsdale
Hillcrest
Hillsdale
Hillcrest
Hillsdale

To: City of Birmingham, City Commission
From: Brad Strader, PTP, MKSK
Date: February 22nd, 2016

MKSK

4219 Woodward Avenue
Suite 305
Detroit, MI 48201
313.652.1101

RE: Street Widths on Residential Streets

This memo is in response to a request by the City Commission to have the Multi-Modal Board research standards for curb-to-curb widths on residential streets. Specifically the request was for precedents and implications for different street width from.

We have begun research on this topic. This serves as an interim report on the information found thus far. There is limited data on street widths at this level of detail. Most information published is in regards to collector and arterial streets, not residential streets.

This packet of information includes:

1. Information we have found to-date from peer cities

2. Published recommendations for residential street width from national organizations

3. Background information and street width data for the City of Birmingham prepared by City Staff (under separate cover)

One of the questions asked was evidence of the safety related to various street widths, incrementally from 24 to 32 feet. Thus far we have not found that level of research in our review of published manuals, articles and contacts with organizations sources such as the Transportation Research Board, Institute of Transportation Engineers, Urban Land Institute and NACTO. The minimum residential street widths used by similar cities in Michigan varies, but the 26-foot standard used in Birmingham since 1996 seems to be the most common. Notably, a number of cities have recently or are currently evaluating their standards. We should be able to share some of their findings with you soon.

In summary, from our research this far, these are the general findings:

1. Generally traffic speeds are higher when the lane widths are higher (ULI, ITE, CNU). But other factors also influence the speed at least as much as the width.

2. Streets with on-street parking have lower speeds (Sources: TRB, ITE, ULI).

MKSK

3. Streets with on-street parking have higher rates of collisions but those collisions are usually minor (source ITE).

4. Streets with trees and short setbacks tend to have lower speeds than those with fewer or no trees and deeper setbacks.

5. Some of the Michigan cities that allow the most narrow streets have significantly less snow than Birmingham.

6. The 26-foot width used by the City of Birmingham is pretty standard in comparable Michigan cities. Some cities allow and maintain 24-foot width, especially in historic neighborhoods where that width was long ago established. A 26-foot width seems to be the most common. Some cities, especially those in high snow zones, have a minimum of 30-32 foot width for new residential streets.

7. Most cities with a width standard have many streets that are wider or more narrow. Those cities tend to reconstruct streets to the new standard, but make modifications in specific situations (trees, block length, use of on-street parking, residential density, observed problems, and neighborhood preferences)

8. Some fire departments, like Grand Rapids, have established a minimum open lane width of 16 feet to be able to provide emergency response.

9. For on-street lane parking lane width along residential streets the most common dimension used is minimum 7-foot width, with 8-foot widths along transit or bike routes.

These findings and our continued research will be presented on Thursday, March 1st at the Multi-Modal Board meeting.

Sincerely,

Brad Strader, Principal

bstrader@mkskstudios.com

Comparison to Standards of Comparable Michigan Cities

City	Minimum Street Width For Residential Streets	Average Snow Fall Per Year*
Birmingham	20-foot wide curb-to-curb for parking on one side of the street; 26-foot wide for parking on two sides.	36 inches
Royal Oak	27-foot wide (back of curb to back of curb) on local streets. Typical parking lane width: 8ft	33 inches
Pleasant Ridge	27-foot wide for parking on one side of the street; parking on both sides of streets being considered to slow traffic. Parking lane width: 7-9ft	32 inches
Ann Arbor	32-foot wide for streets with metered parking; 24-26 foot wide streets are also common. Travel lanes: 10-foot travel lanes in downtown, 9-foot lanes on very low volume residential streets. Parking lane width: 8ft (preferred), some are 7ft	53 inches
Grand Rapids	26-foot wide preferred, 24-foot wide minimum (e.g. in a historical district). Travel lanes: Typical had been 12-foot travel lanes, 10-foot travel lanes are now preferred; 16-foot minimum clear zone for emergency vehicles, low volume yield streets with parking on both sides. Parking lane width: 7-8ft (8ft preferred, especially when adj. to transit or bike lane) including the gutter pan.	68 inches
East Lansing	Travel lanes: 10-foot wide lanes, 11-foot preferred, especially adjacent to parking or bike lanes. Parking lane width: 7-8ft (8ft preferred)	45 inches
Traverse City	Minimum 27-foot width face-to-face parking on both sides, but only one side allowed in winter. 30-foot widths required for year-round parking	110 inches

*Snowfall noted because it was cited as a factor in the Commissioner's request. Source: Google

Comparison to National Standards

The Institute of Transportation Engineers' (ITE's) 2001 publication, "Residential Streets, Third Edition," recommends an 18-foot pavement width for local streets with no parking expected, 22-24 foot pavement width for local streets with low or restricted parking, 24-26 foot pavement width for local streets with normal residential parking, and 32-36 foot pavement width for residential collector streets (See Figure 2-15 and Table 2-4). For local streets, the 18-foot width allows for a 6-7 foot on-street parking lane on one side and an 11-12 foot travel lane. The 22-26 foot pavement width allows for 6-7 foot parking lanes on both sides of the street with a 10-14 foot travel lane. The 34-36 foot pavement width of the residential collector street allows for two 8-foot on-street parking lanes with two 10-foot travel lanes.

FIGURE 2-15
Street and lane widths.

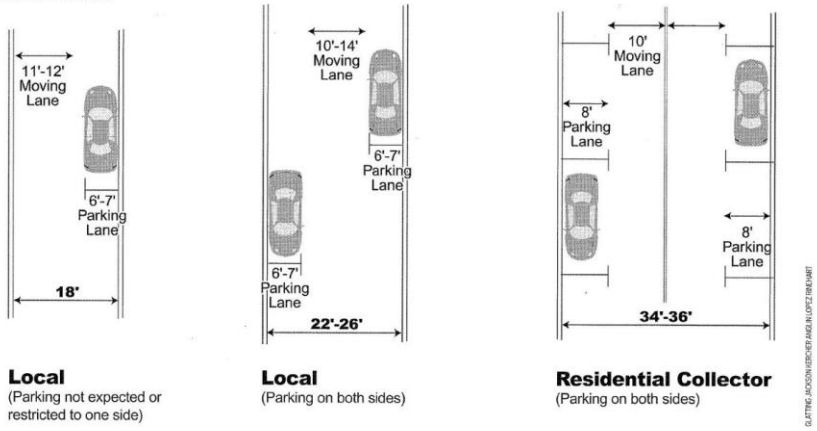


TABLE 2-4

RECOMMENDED PAVEMENT WIDTHS

	Pavement Width
Local Streets	
• No Parking Expected	18 feet
• Low or Restricted Parking	22-24 feet
• Normal Residential Parking	24-26 feet
Residential Collector	32-36 feet

ITE's 2003 "Neighborhood Street Design Guidelines" offers more specific recommendations for residential street curb-to-curb pavement widths based on neighborhood character, dwelling units per gross acre, and number of on-street parking lanes (refer to Table 3-1). For Low-Density Residential streets with 2.0 and fewer dwelling units per gross acre, ITE recommends 2 channels for traffic and parking, an 18-foot minimum curb-to-curb pavement width if parking is permitted on only one side, and a 20-22 foot curb-to-curb pavement width if parking is permitted on both sides. For Medium-Density Residential streets, defined as having between 2.1 and 6.0 dwelling units per gross acre, ITE recommends 3 channels for traffic and parking with a minimum of 24 feet of curb-to-curb pavement if parking is on one side, and 26-28 feet of curb-to-curb pavement width if parking is permitted on both sides of the street. For High-Density Residential streets with 6.1 to 10.0 dwelling units per gross acre, 4 channels for traffic and parking are recommended, with a minimum pavement width of 28 feet for parking on one side, or 30-32 feet of pavement width if parking is desired on both sides of the street. In Very High-Density Residential areas, ITE recommends 4 channels for traffic and parking with minimum 32 feet of pavement width for parking on one side and 34-38 feet of width for parking on both sides. The recommendation for Mixed-Use/Commercial districts is also 4 channels for traffic and parking with a minimum curb-to-curb pavement width of 32 feet for one-sided parking and at least 34 feet of width for parking on both sides.

Table 3–1
Guidelines for Neighborhood Street Curb-to-Curb Pavement Width[1]

Neighborhood Character	Dwelling Units per Gross Acre[2]	Recommended Number of Channels for Traffic and Parking	Recommended Curb-to-Curb Width of Pavement with Parking Permitted on Either Side[3]	Minimum Curb-to-Curb Width of Pavement with Parking Permitted on One Side Only[4]
Low-Density Residential	2.0 and fewer	2	20–22 ft.[5]	18 ft.
Medium-Density Residential	Between 2.1 and 6.0	3	26–28 ft.[5]	24 ft.
High-Density Residential	Between 6.1 and 10.0	4	30–32 ft.	28 ft.
Very High-Density Residential	10.1 and higher	4	34–38 ft.	32 ft.
Mixed-Use/ Commercial	Not applicable	4	At least 34 ft.	32 ft.

The National Association of City Transportation Officials (NACTO) Urban Street Design Guide (2013) refers to a study that estimated "each additional foot of lane width related to a 2.9 mph increase in driver speed." NACTO recommends travel lane width of 10 feet for urban areas because they provide adequate safety while minimizing speeding behavior. For designated truck and transit routes, with the addition of one travel lane of 11 feet in each direction for. They also note that in some cases, narrower 9-9.5 foot lanes can be used in conjunction with a turning lane. NACTO also recommends parking lane width of 7-9 feet in urban areas.

The AASHTO's "A Policy on Geometric Design of Highways and Streets" recommends that travel lanes be at least 10 feet wide, and where feasible, 11 feet wide. AASHTO describes a 26-foot wide pavement as a typical curb-to-curb dimension for residential streets that allows for two 7-foot parking lanes and a central 12-foot travel lane. The level of inconvenience caused by having only one travel lane and yielding traffic is minimal in most single-family residential areas.

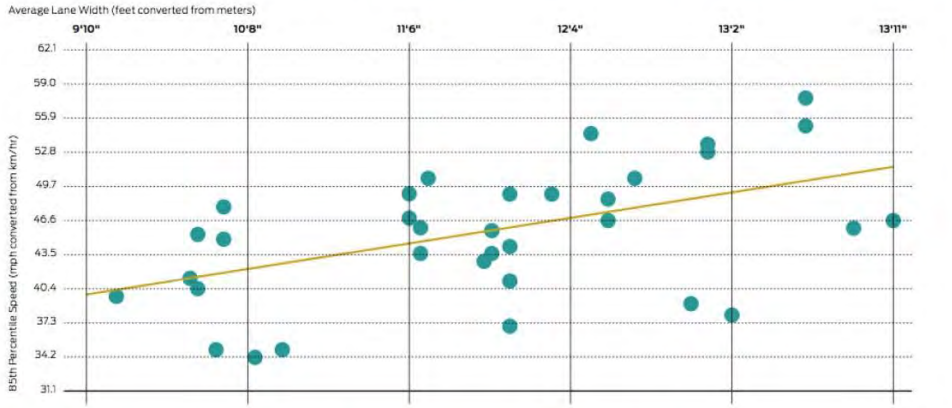
The city of Portland, Oregon's "Skinny Streets" policy calls for residential pavement width of 20 feet with one on-street parking lane or 26 feet with on-street parking on both sides.

Additional Graphics:

LANE WIDTH & SPEED

2017 CITY OF WYOMING MASTER PLAN

Wider travel lanes are correlated with higher vehicle speeds.



"Lanes greater than 11 ft should not be used as they may cause unintended speeding and assume valuable right of way at the expense of other modes. This includes the use of wide outside lanes for bicyclist accommodation. Wide outside lanes are not an effective means of accommodating bicyclists in urban areas."

- *Urban Street Design Guide* - NACTO (National Association of City Transportation Officials)

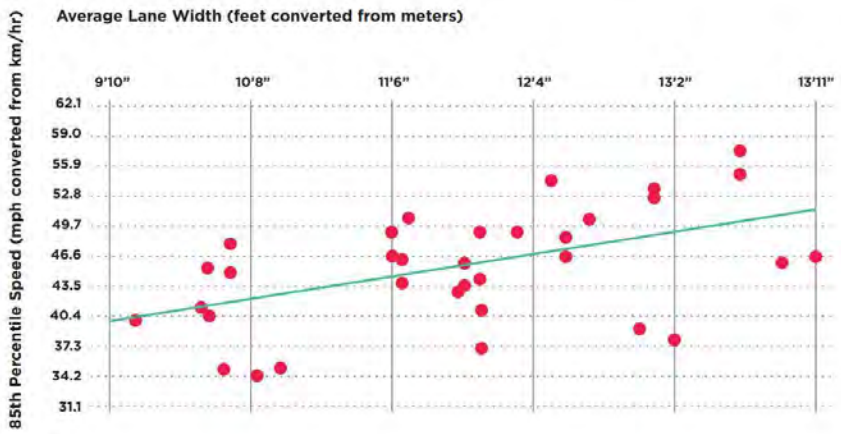
Regression Line

85th Percentile Speed of Traffic

Chart source: Fitzpatrick, Kay, Paul Carlson, Marcus Brewer, and Mark Wooldridge. 2000. "Design Factors That Affect Driver Speed on Suburban Streets." *Transportation Research Record* 1751: 18–25.

4

FIGURE 5 WIDE TRAVEL LANES ARE CORRELATED WITH HIGHER VEHICLE SPEEDS



As the width of the lane increased, the speed on the roadway increased...When lane widths are 1 m (3.3 ft) greater, speeds are predicted to be 15 km/h (9.4 mph) faster.

Chart source: Fitzpatrick, Kay, Paul Carlson, Marcus Brewer, and Mark Wooldridge, 2000. "Design Factors That Affect Driver Speed on Suburban Streets." Transportation Research Record 1751:18-25.

Engineering judgment must be used to determine if lane widths should be expanded or narrowed from the recommended widths below.

RECOMMENDED LANE OR TRAVELWAY WIDTHS IN THE CITY OF GRAND RAPIDS.

TRAVEL LANE / TRAVELWAY USE	RECOMMENDED WIDTH
Yield street (exclusive of on street parking generally required on at least one side)	16'
Travel lane directly adjacent to the curb	11'
Typical general purpose travel lane	10'
Turn lane	10'
Bicycle Facility	6'
Frequent transit bus lane or lane with high volume of heavy vehicles (>8%)	11'

MEMORANDUM

Engineering Dept.
Planning Department
Police Dept.

DATE: **March 29, 2018**

TO: **Multi-Modal Transportation Board**

FROM: **Jana Ecker, Planning Director**
Scott Grewe, Police Dept.
Paul O'Meara, City Engineer

SUBJECT: **Street Widths- History**

The Multi-Modal Transportation Board (MMTB) recently reviewed conceptual designs for three local streets planned for reconstruction in 2018. A public hearing was held, and a final recommendation for the streets was passed on to the City Commission on a vote of 4-3. As you may recall, at the public hearing, several residents appeared before the Board asking that Bennaville Ave. not be reduced in width (as proposed). A smaller number of residents appeared asking that the block of Chapin Ave. east of Cummings St. also not be reduced in width.

When the City Commission reviewed the issue at their meeting of January 22, 2018 several residents again appeared on behalf of Bennaville Ave., and additional residents appeared on behalf of the one block of Chapin Ave. After much discussion, the City Commission endorsed the recommendations of the MMTB, also on a vote of 4-3. As a part of the discussion, the Commission expressed confusion as to what the City's policy is for determining the width of a new street. As a result, the MMTB was asked to study the issue in further detail, and send information and policy direction back to the Commission.

At the MMTB meeting on March 1, 2018, the board identified the goals for identifying a standard road width for residential roads, which include:

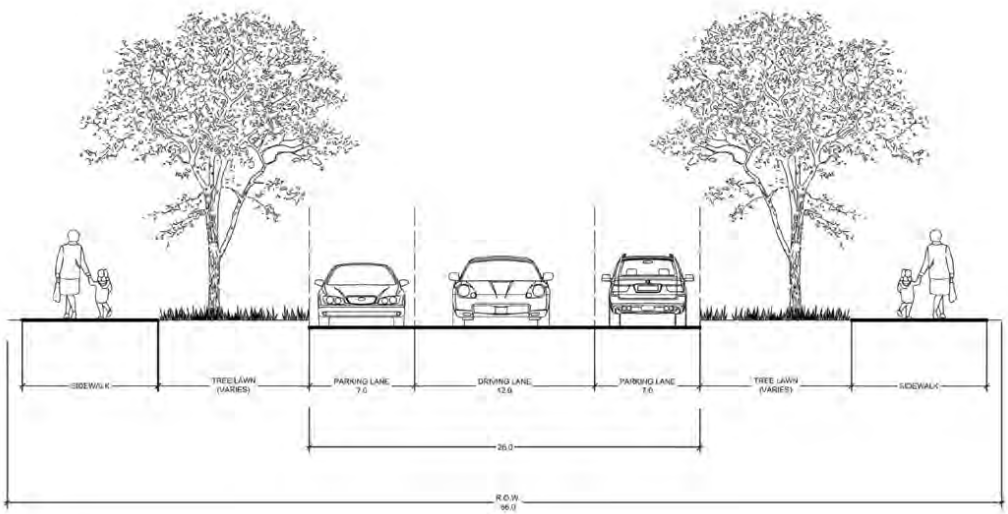
- Functionality;
- Consistency;
- Accident reduction;
- Traffic calming;
- Expediency in planning and engineering; and/or
- Infrastructure costs.

MKSK and F & V reviewed the national standards and best practices from a variety of sources regarding the recommended residential street width. Much discussion ensued, and the board directed staff to draft general standards for residential street widths, and to present criteria that could be used to determine if an exception should be granted. The board discussed the fact that there does not need to be a uniform street width standard, but there may be factors to permit modifications for different types or roads or in different development conditions.

Accordingly, please see the attached options prepared for your consideration. It is anticipated that much discussion will still be needed before the MMTB is prepared to make a recommendation to the City Commission. A copy of the memo and research from last month's meeting is also attached to this memo for reference.

OPTION ONE

Birmingham Residential Street Design Standards



For Residential Streets, the design standard shall be 26 feet wide from curb to curb. This width typically allows for parking along both sides of the street with room for a vehicle to pass in either direction. When there is opposing traffic (vehicles going both ways) one of the motorists will need to Yield to the other. This is commonly classified as a "Yield" or "Courtesy" Street. Traffic in opposing directions shall generally require a curb-to-curb dimension of 32 feet or greater. On-street parking may be restricted during winter months to ease snow removal.

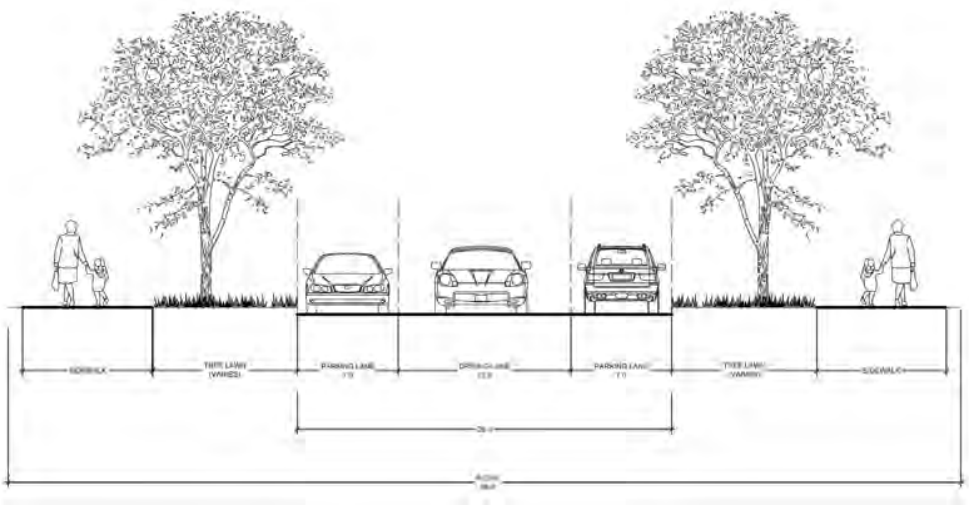
When streets are built, paved, or reconstructed, this standard shall generally be applied. Exceptions may be considered when factors such as the following are considered:

- Frequency of use of on-street parking (when parking density is classified as highly utilized such as over 25% occupancy throughout the day or more than 50% of the available curbspace used overnight, more width may be required or parking on some segments may need to be restricted).
- Use of the street by a higher volume than is typical for a residential street by school buses or other larger vehicles or as a frequent emergency response route.
- Proximity to a school, church, city park, funeral home, multiple-family residential, or other use with access that generates higher traffic volumes and/or on-street parking demand than is typical for a single family residential neighborhood.
- Presence of street trees, especially healthy, mature trees, especially when the right-of-way is 50 ft. or less.
- Block length (shorter blocks may need less width, long blocks may need more); width of a cul-de-sac may be reduced to 24 feet.
- Any documented operational or safety concerns noted with the street.
- Resident preferences as expressed at a public workshop or survey determined to be representative of the residents along the street.

OPTION TWO

Birmingham Residential Street Design Standards

(1) New Residential Streets



City Standard

26′ in width from curb to curb.

Cul-de-sacs or Dead End Streets with no Exit

24′ in width from curb to curb.

- This width typically allows for parking along both sides of the street with room for a vehicle to pass in either direction
- When there is opposing traffic (vehicles going both ways) one of the motorists will need to yield to the other ("Yield" or "Courtesy" Street)
- On-street parking can be restricted during winter months if needed for snow removal
- No exceptions

(2) Existing, Improved Residential Streets

City Standard

(a) If existing road width is 28′ or less, maintain existing width.
(b) If existing road width is over 28′, reduce street to 26′ in width curb to curb.

OPTION TWO

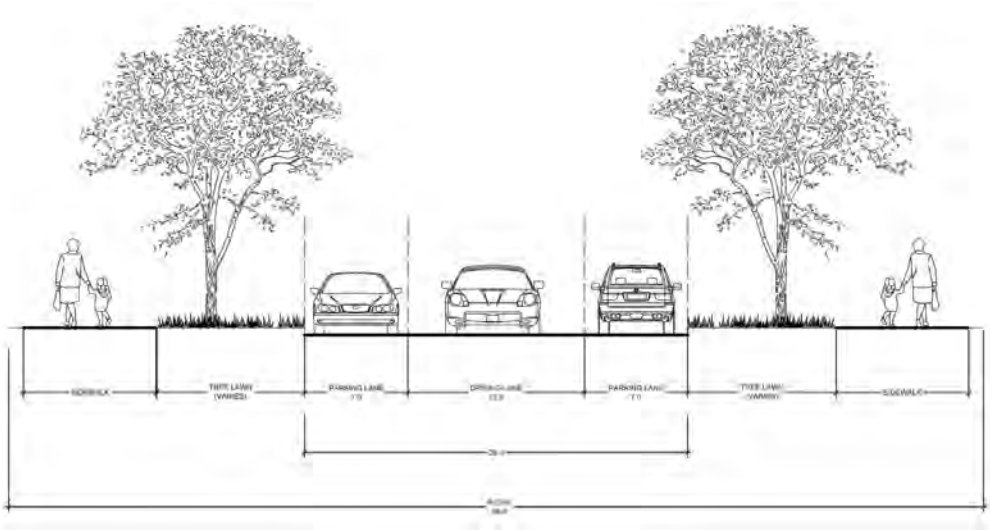
<u>Cul-de-sacs or Dead End Streets with no Exit</u>

(a) If existing road width is 26′ or less, maintain existing width.
(b) If existing road width is over 26′, reduce street to 24′ in width curb to curb.

Exceptions to the standard width of no more than 4′ may be considered when three or more of the following conditions exist:

- When 25% or more of the available on-street parking is in use during the day, or more than 50% or more of the available on-street parking is in use overnight, which shall be determined by a parking study covering a minimum of two weeks;
- When the street is determined to be a frequent emergency response route by the Birmingham Fire Department, or is located on a published Birmingham Public Schools bus route;
- Two or more healthy, mature street trees must be removed or may be at risk if the City Standard road width was applied;
- Average block length varies more than 50% from the average block length of_____′;
- There are documented operational or safety concerns for the street as determined by the Birmingham Police Department; and/or
- A majority of residents on the street segment to be repaved or reconstructed wish to seek approval for an exception to the standard street widths noted above.

(3)<u>Existing, Unimproved Residential Streets To Be Improved</u>



<u>City Standard</u>

26′ in width from curb to curb.

OPTION TWO

<u>Cul-de-sacs or Dead End Streets with no Exit</u>

24′ in width from curb to curb.

Exceptions to the standard width of no more than 4′ may be considered when three or more of the following conditions exist:

- When 25% or more of the available on-street parking is in use during the day, or more than 50% or more of the available on-street parking is in use overnight, which shall be determined by a parking study covering a minimum of two weeks;
- When the street is determined to be a frequent emergency response route by the Birmingham Fire Department, or is located on a published Birmingham Public Schools bus route;
- Two or more healthy, mature street trees must be removed or may be at risk if the City Standard road width was applied;
- Average block length varies more than 50% from the average block length of_____′;
- There are documented operational or safety concerns for the street as determined by the Birmingham Police Department; and/or
- A majority of residents on the street segment to be improved wish to seek approval for an exception to the standard 26′ street width.

OPTION 3

LOCAL STREET WIDTH DECISION FLOW CHART
DRAFT

IMPROVED (RECONSTRUCTION) - 28 FT. WIDE OR LESS?

- YES >> — REBUILD AS IS UNLESS CHANGED CONDITION WARRANTS FURTHER STUDY
- NO >> — FOLLOW UNIMPROVED GUIDE

UNIMPROVED (NEW CONSTRUCTION) - STANDARD 26 FT.

- PARKING DEMAND — IF>25% DAYTIME, OR IF>50% OVERNIGHT, STUDY FOR POSSIBLE INCREASE
  IF < 10% OVERNIGHT, STUDY FOR DECREASE TO 24 FT.
- TRAFFIC VOLUME — IF>_____ADT, OR IF SCHOOL, CHURCH, BUS ROUTE, EMERGENCY ROUTE PRESENT, STUDY FOR INCREASE
- RIGHT-OF-WAY — IF< SO FT., RESTRICT PARKING TO ONE SIDE, INSTALL 20 FT. WIDE PAVEMENT
- CUL-DE-SAC OR DEAD-END — REDUCE TO 24 FT.
- TRAFFIC SPEED/OR KNOWN TRAFFIC ISSUE — MEASURE 8STH % SPEED, STUDY TRAFFIC PROBLEMS FOR SPECIAL DESIGN FEATURES
- PUBLIC SURVEY — IF A CHANGE FROM EXISTING OR OTHER THAN 26 FT. IS PROPOSED, A SURVEY TO ALL PROPERTY OWNERS TO COMMENT TO THE MMTB IS REQUIRED, PRIOR TO PUBLIC HEARING. SURVEY SHALL BE EASY TO RESPOND TO SO AS TO DEMONSTRATE TO CITY COMMISSION THAT GOOD FAITH EFFORT WAS MADE TO GET INPUT.

MEMORANDUM

Engineering Dept.
Planning Department
Police Dept.

DATE: **April 27, 2018**

TO: **Multi-Modal Transportation Board**

FROM: **Jana Ecker, Planning Director**
Scott Grewe, Police Dept.
Paul O'Meara, City Engineer

SUBJECT: **Residential Street Width Standards**

The Multi-Modal Transportation Board (MMTB) recently reviewed conceptual designs for three local streets planned for reconstruction in 2018. A public hearing was held, and a final recommendation for the streets was passed on to the City Commission on a vote of 4-3. As you may recall, at the public hearing, several residents appeared before the Board asking that Bennaville Ave. not be reduced in width (as proposed). A smaller number of residents appeared asking that the block of Chapin Ave. east of Cummings St. also not be reduced in width.

When the City Commission reviewed the issue at their meeting of January 22, 2018 several residents again appeared on behalf of Bennaville Ave., and additional residents appeared on behalf of the one block of Chapin Ave. After much discussion, the City Commission endorsed the recommendations of the MMTB, also on a vote of 4-3. As a part of the discussion, the Commission expressed confusion as to what the City's policy is for determining the width of a new street. As a result, the MMTB was asked to study the issue in further detail, and send information and policy direction back to the Commission.

At the MMTB meeting on March 1, 2018, the board identified the goals for identifying a standard road width for residential roads, which include:

- Functionality;
- Consistency;
- Accident reduction;
- Traffic calming;
- Expediency in planning and engineering; and/or
- Infrastructure costs.

MKSK and F & V reviewed the national standards and best practices from a variety of sources regarding the recommended residential street width. Much discussion ensued, and the board directed staff to draft general standards for residential street widths, and to present criteria that could be used to determine if an exception should be granted. The board discussed the fact that there does not need to be a uniform street width standard, but there may be factors to

permit modifications for different types or roads or in different development conditions. A copy of the memo and research from the March MMTB meeting is attached for reference.

On April 5, 2018, the MMTB discussed three different options for residential street width standards. After much discussion, the MMTB directed staff to consolidate the options into a final version, including a preamble regarding the intent of the residential street width standards, establishing standards for improved and unimproved streets, establishing objective criteria to be met in order for a variance from the standards, and provisions for notifying the public and obtaining public input when existing street widths are recommended for change.

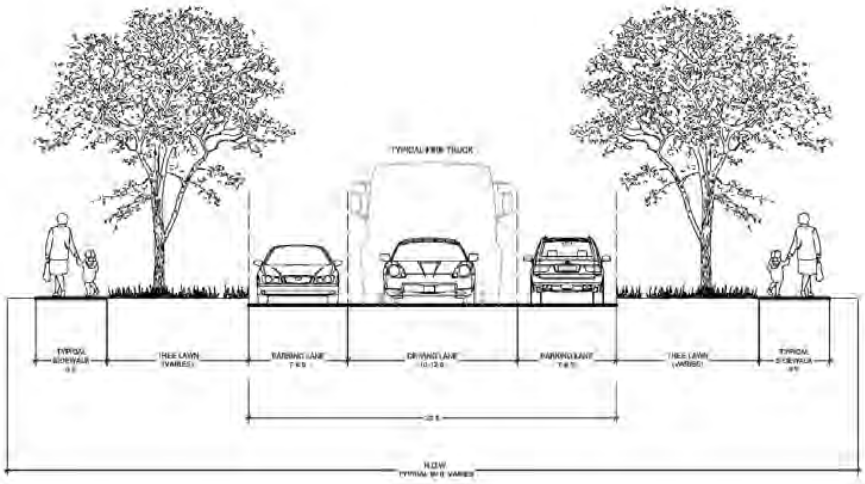
Please find attached the consolidated draft of the proposed standards and criteria for variance from the standards. Both the written out standards and the flow chart are proposed together to clarify the decision-making process. Meeting minutes are also attached for your review.

Suggested Action:

To recommend approval to the City Commission of the revised Residential Street Width Standards.

DRAFT – April 27, 2018

BIRMINGHAM RESIDENTIAL STREET DESIGN STANDARDS



INTENT: The purpose of these standards is to provide consistent street widths throughout the city but with flexibility for very specific situations. These standards are based on residential street design recommendations published by AASHTO, the Institute of Transportation Engineers (ITE), the Urban Land Institute (ULI), the Congress for New Urbanism, NACTO and those used by peer cities. Using those standards as a base, these standards are also based on emergency response access, winter weather, the existing street widths in the city, and the characteristics of different neighborhoods in the city.

These widths typically allow for parking along both sides of the street with room for a vehicle to pass in one direction. When there is opposing traffic (vehicles going both ways) one of the motorists will need to yield to the other. This is commonly classified as a "Yield" or "Courtesy" Street.

STREET DESIGN STANDARDS (see also attached flow chart):

1. **NEW AND EXISTING, UNIMPROVED RESIDENTIAL STREETS THAT ARE BEING IMPROVED**
   When streets are improved or newly constructed, the standards below shall be strictly applied:
   a. **Standard Streets:** 26 ft. in width from curb to curb.
   b. If the right-of-way is less than 50 ft., the street width shall be a minimum of 20 ft. with parking allowed on one side only (generally the side without fire hydrants).

2. **EXISTING, IMPROVED RESIDENTIAL STREETS**
   When previously built streets are reconstructed, this standard shall generally be applied. Exceptions may be considered when factors, such as those described in Section 4, are evident.
   Standard Streets: 26 ft. in width from curb to curb.
   Existing Street is 28 feet or less in width: If existing street width is 28 ft. or less in width, street shall generally be reconstructed at the existing width.

3. PUBLIC NOTICE AND PUBLIC HEARING

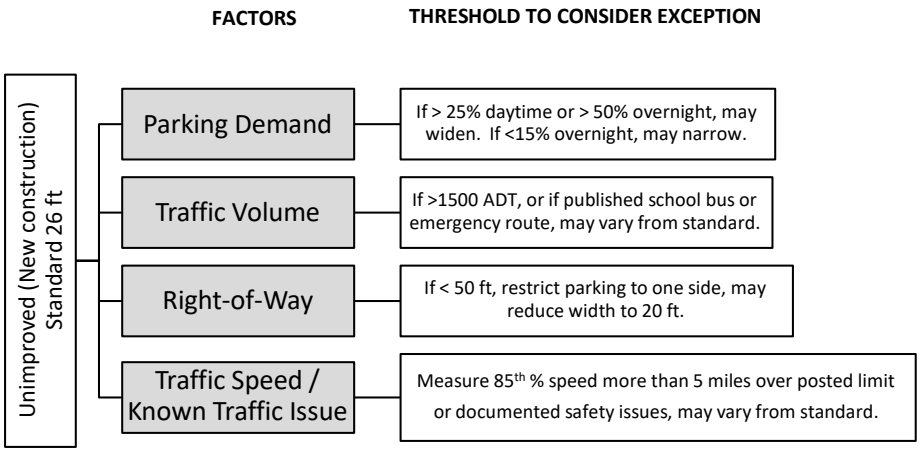
Whenever there is a street project where a change in the existing width is being considered, the Multi-Modal Transportation Board shall have a Public Hearing to inform residents of the project and provide an opportunity for comment. The City shall post a sign along the street that announces street project. Design details shall be advertised and posted on the City's website. If residents express a desire for a non-standard street width at a public meeting or through a public survey of street residents, those preferences shall be considered. However, engineering or safety factors listed in Section 4 must also be present to support a design exception.

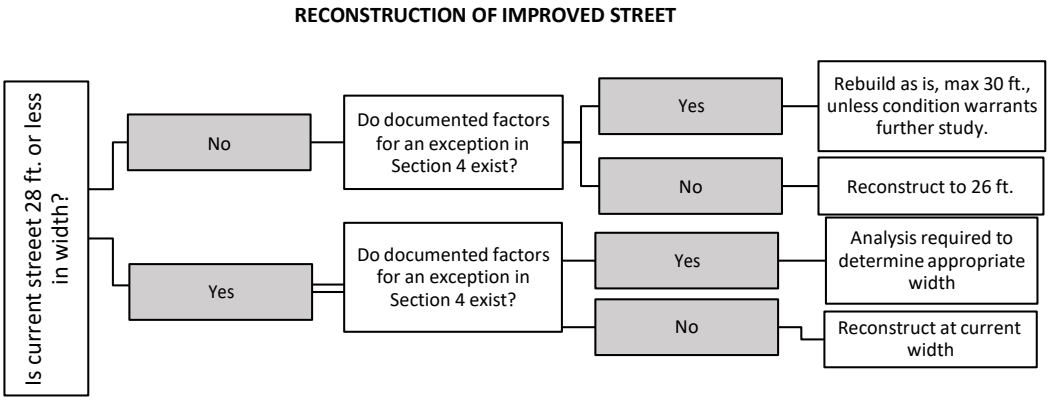
4. EXCEPTIONS AND MODIFICATIONS TO THE WIDTH STANDARDS Any modification must be consistent with the Intent of these standards and the engineering publications upon which they are based. Street width exceptions may only be approved to a minimum of 20 ft. and a maximum of 30ft. Modifications to street widths may only be considered if one or more of the following conditions exist:

a. High or low frequency of use of on-street parking. When surveyed on-street parking is utilized 15% or less overnight, the width may be reduced. When parking density is classified as highly utilized, defined as over 25% occupancy throughout the day or more than 50% of the available curb space used overnight, the width may be increased. For calculation of parking, a minimum length of 22 ft. shall be used and not include driveways, spaces adjacent to fire hydrants, or other locations where parking is not allowed.
b. Daily traffic volumes exceed 1500 vehicles.
c. The street is a published school bus route used by the Birmingham Public Schools or is a frequent emergency response route.
d. Street is adjacent to a school, church, City park, multiple-family residential development, or other use with access that generates higher traffic volumes.
e. Presence of street trees, especially healthy, mature trees, such that rebuilding the road as proposed would result in the removal of two or more trees.
f. A speed study confirms that the 85th percentile speed is more than 5 miles per hour over the posted speed limit and/or city police or engineering departments have documented operational or safety concerns related to traffic patterns along the street.
g. Street may be as narrow as 20 ft. with parking on one side only if right-of-way is less than 50 ft. If street width is less than

5. BOULEVARD STREETS

Reconstruction of streets with a boulevard, median, or other unique design feature, shall be reconstructed to match the current configuration unless geometric changes are needed based on safety or engineering analysis.


FACTORS
THRESHOLD TO CONSIDER EXCEPTION
Unimproved (New construction) Standard 26 ft
Parking Demand
If > 25% daytime or > 50% overnight, may widen. If <15% overnight, may narrow.
Traffic Volume
If >1500 ADT, or if published school bus or emergency route, may vary from standard.
Right-of-Way
If < 50 ft, restrict parking to one side, may reduce width to 20 ft.
Traffic Speed / Known Traffic Issue
Measure 85th % speed more than 5 miles over posted limit or documented safety issues, may vary from standard.


RECONSTRUCTION OF IMPROVED STREET
Is current streeet 28 ft. or less in width?
No
Do documented factors for an exception in Section 4 exist?
Yes
Rebuild as is, max 30 ft., unless condition warrants further study.
No
Reconstruct to 26 ft.
Yes
Do documented factors for an exception in Section 4 exist?
Yes
Analysis required to determine appropriate width
No
Reconstruct at current width

Multi-Modal Transportation Board Minutes
March 1, 2018

5. RESIDENTIAL STREET WIDTHS

Mr. O'Meara recalled that recently the MMTB reviewed conceptual designs for three local streets planned for reconstruction in 2018. A public hearing was held, and a final recommendation for the streets was passed on to the City Commission on a vote of 4-3. At the public hearing, several residents appeared before the board asking that Bennaville Ave. not be reduced in width (as proposed). A smaller number of residents appeared asking that the block of Chapin Ave. east of Cummings St. also not be reduced in width.

When the City Commission reviewed the issue at their meeting of January 22, 2018, several residents again appeared on behalf of Bennaville Ave., and additional residents appeared on behalf of the one block of Chapin Ave. After much discussion, the City Commission endorsed the recommendations of the MMTB, also on a vote of 4-3. As a result, the Commission asked the MMTB to study the City's policy of street widths in detail, and to send information and policy direction back to the Commission.

Staff summarized some of the paving history. Going back to 1977, streets were typically paved at 28 ft. between the two curb faces. When Andres Duany came to town in 1996 he advocated going down to 26 ft. and after extensive discussion the City Commission agreed to adopt 26 ft. as the standard road width with parking on both sides. That policy has been working well.

Unimproved Streets

From Staff's perspective, the current standards for unimproved streets have worked well. The current street width policy has been followed and very few if any complaints have been received from residents. Residential sections have been built at 26 ft. and commercial sections have been built at 36 ft.

Improved Streets

Historically, streets were rebuilt to match the conditions the width constructed previously. Reconstruction offers the opportunity to review the current conditions in light of current standards and consider if there is a potential need for change. Issues to consider include the following:

- Multi-Modal Improvements - If there are no specific recommendations in the Master Plan, the board will discuss improvements that can be included that would bring multi-modal improvements.
- Neighborhood Density - The board also considers the extent to which the land uses and density of uses on the street impact parking demand.
- Owner Preference - While the City may have established guidelines and attempted to follow current best practices in the industry, the property owners living on the street

often have preferences that are counter to the direction that best practice standards would dictate.

- Right-of Way - If the right-of-way is less than 50 ft., the board may consider a narrower street in order to provide the required space for City sidewalks and street trees.
- Traffic Issues - The board will conduct a review of the history of traffic issues on a street, which typically includes a review of speeding and cut-through traffic complaints.
- Trees - If a street has mature trees that can be damaged or require removal during a street reconstruction project, these factors need to be considered.

Brad Strader from MKSK summarized their research on national standards and best practices for residential street design and provided it for the board's consideration.

Mr. Strader said they looked at publications by the Transportation Research Board, Institute of Transportation Engineers, Urban Land Institute, National Association of City Transportation Officials ("NACTO"), and AASHTO. The 26 ft. pavement width used in Birmingham since 1996 seems to be the most common. An additional standard to be considered along with those named by Mr. O'Meara is that if the road is a transit route with busses, another foot of width is required.

Mr. Strader explained that NACTO is a more progressive city-oriented guide that is used by engineers and generally preferred by urban planners. They recommend a travel lane width of 9.5 to 10 ft. for urban areas. AASHTO covers all the roads in the country and recommends that travel lanes be at least 10 ft. wide and where feasbile,11 ft. or wider. They describe a 26 ft. wide pavement as a typical curb-to-curb dimension for residential streets. However, on a collector route such as Eton Rd., NACTO and AASHTO both recommend a wider lane.

The general findings are:

- Presence of on-street parking lowers speeds. If there is no on-street parking, speeds are higher;
- Block length, density, setbacks, street trees, traffic calming measures or how the road is designed influence both speed, safety, and also the volumes.

Ms. Ecker stated that the Fire Dept.'s widest tower truck is 10 ft. in width.

Ms. Edwards thought that the board might want to consider calling one of the current conditions "Parking Density" rather than "Neighborhood Density."

Dr. Rontal felt it would be instructive to look at the effective curb distance in the wintertime. Also, to consider the option of having alternating one side only parking.

Mr. Isaksen suggested that if a street isn't on the neighborhood connector route, maybe it deserves different treatment. Ms. Ecker added that the average residential street probably won't have a lot of bike improvements.

Ms. Slanga noted that the average life span of the streets is 60-90 years. She wondered if there has been futuring on what happens when different modes of transportation are adopted. The future is dynamic and the City should recognize that.

Mr. Strader responded the general feeling is that the transition of the fleet will occur over 20 years but it is unknown what the vehicles will be or how they will change our streets. Most of the current feeling is that autonomous vehicles will mean the amount of vehicles moving around will go up instead of down, but there will be less demand on parking. Also, there will be more curbside activity with vehicles hovering or people waiting. Over time, that might sacrifice some on-street parking.

Mr. Isaksen said it seems the low traffic residential streets that are the topic of today's discussion are least sensitive to changes in transportation modes. Whereas, the big arterial roads will be the ones most impacted by such a change when it occurs. Mr. Strader did not think it would change the curb-to-curb, but it might change the management of the parking along the street edge.

It was discussed that an additional criterion to consider when deciding whether or not to change a residential road width would be a unique land use, such as a school, historical neighborhood, etc. Mr. O'Meara noted there is currently a policy of 26 ft. for newly built roads. However, there never has been a specific policy on rebuilding existing roads. Ms. Ecker added there might be different standards for unimproved roads to go to improved, versus roads that are already improved. So that everyone doesn't have their own different idea of what should be done, standards will help the City, along with having criteria to make it clear when to vary from the standard.

Mr. Strader suggested the consultants work with staff to put together a packet of what a general standard might look like, how it might be modified, along with the factors to consider and what qualifications are needed to meet those factors. He did not think continuing research would be that valuable. All were in agreement.

Multi-Modal Transportation Board Minutes
April 5, 2018

5. RESIDENTIAL STREET WIDTHS

Mr. O'Meara recalled the Multi-Modal Transportation Board ("MMTB") recently reviewed conceptual designs for three local streets planned for reconstruction in 2018. A public hearing was held, and a final recommendation for the streets was passed on to the City Commission on a vote of 4-3. At the public hearing, several residents appeared before the board asking that Bennaville Ave. not be reduced in width (as proposed). A smaller number of residents appeared asking that the block of Chapin Ave. east of Cummings St. also not be reduced in width.

When the City Commission reviewed the issue at their meeting of January 22, 2018, after much discussion they endorsed the recommendations of the MMTB, also on a vote of 4-3. As a part of the discussion, the Commission expressed confusion as to what the City's policy is for determining the width of a new street. As a result, the MMTB was asked to study the issue in further detail, and to send information and policy direction back to the Commission.

At the MMTB meeting on March 1, 2018, the board identified the goals for identifying a standard road width for residential roads, which include:

- Functionality;
- Consistency;
- Accident reduction;
- Traffic calming;
- Expediency in planning and engineering; and/or
- Infrastructure costs.

MKSK and F & V reviewed the national standards and best practices from a variety of sources regarding the recommended residential street width. The board directed staff to draft general standards for residential street widths, and to present criteria that could be used to determine if an exception should be granted. Accordingly, three options have been prepared for the board's consideration.

Mr. Strader said the options are about 85% similar. Hopefully the items the board is looking for have been captured in one or more of the options. Option 1 that was prepared by MKSK states that the design standard shall be 26 ft. wide. It describes what a "Yield" or "Courtesy Street" is and then the factors for a variation from that.

Mr. O'Meara explained that Option 2 came from Ms. Ecker. She created a hybrid based on taking his ideas and Mr. Strader's ideas and adding separate categories for a new street that hasn't existed yet; rebuilding a previously paved street; and an existing street that has never had curbs. The one big difference is if a street is 26 to 28 ft. it wouldn't have to be changed to be 26 ft.

Option 3 was summarized by Mr. O'Meara. If a street is 26 or 28 ft., the recommendation is to put it back to the same width. Mr. Strader noted there really isn't that much difference between 28 and 26 ft. If the street is already built to one of those standards, just replace that standard. After comments from Ms. Folberg, it was agreed to remove the standard that cul-de-sacs or dead-end streets be reduced to 24 ft. in width. There was also questions relative to the distinction for a long block vs. shorter blocks. If a change from existing or other than 26 ft. is proposed, a survey to all property owners to comment to the MMTB is required before the public hearing.

Instances where streets have a lot of people parking versus those where there is almost no parking demand were considered. Ms. Folberg suggested if the street is between 26 and 28 ft., move forward with that unless there have been complaints about traffic or speeding.

Ms. Schafer talked about the phenomenon of people creating parking spaces within the right-of-way on unimproved streets. Mr. O'Meara thought that people feel it is dangerous to park in the actual pavement because it is usually only 20 ft. wide. This is allowed in the City if the street is uncurbed. He added that when streets get rebuilt with curbs, those parking areas are required to be removed.

In terms of notification to the residents, the board liked the idea of putting up a sandwich board at the entrance/exit to the neighborhood.

With regard to rebuilding a street, Ms. Folberg said she would tend to go with what people want except when those decisions are not based on urban planning practices and engineering standards and guidelines. Mr. O'Meara added it would help to have initial conversation with the board to identify where they want to go. Data could then be collected from the survey and outreach conducted in a second meeting prior to the public hearing in order to be well prepared.

Ms. Folberg said as part of the public survey, people should be educated about the reason for the proposal. Mr. Strader added maybe they ought to insert a preamble to the proposal saying the City understands all of the residents' concerns but the standards are based on nationally accepted design manuals; the fire code; consideration of safety for pedestrians and bicyclists; reducing crashes and appropriate speeds; and emergency exits. That would form the intent and basis for the proposal.

Mr. O'Meara confirmed that Ms. Ecker, Mr. Strader and he would sit down and consolidate the three options into one document.

DRAFT Multi-Modal Transportation Board Minutes
May 3, 2018

5. RESIDENTIAL STREET WIDTHS

Chairman Rontal recalled the Multi-Modal Transportation Board ("MMTB") recently reviewed conceptual designs for three local streets planned for reconstruction in 2018. A public hearing was held, and a final recommendation for the streets was passed on to the City Commission on a vote of 4-3. At the public hearing, several residents appeared before the board asking that Bennaville Ave. not be reduced in width (as proposed). A smaller number of residents appeared asking that the block of Chapin Ave. east of Cummings St. also not be reduced in width.

When the City Commission reviewed the issue at their meeting of January 22, 2018, they endorsed after much discussion the recommendations of the MMTB, also on a vote of 4-3. As a part of the discussion, the Commission expressed confusion as to what the City's policy is for determining the width of a new street. As a result, the MMTB was asked to study the issue in further detail, and to send information and policy direction back to the Commission.

At the MMTB meeting on March 1, 2018, the board identified the goals for identifying a standard road width for residential roads, which include:

- Functionality;
- Consistency;
- Accident reduction;
- Traffic calming;
- Expediency in planning and engineering; and/or
- Infrastructure costs.

Ms. Ecker advised that on April 5, 2018, the MMTB discussed three different options for residential street width standards. After much discussion, the MMTB directed staff to consolidate the options into a final version. The consolidated draft of the proposed standards and criteria for variance from the standards is presented this evening. There are two portions of the draft; one is a cross-section that shows how wide the lanes would be, and it is written out. A flow chart is proposed as well so it is easy to understand how and why decisions are made. In addition, an intent section talks about the different standards that were referenced when coming up with the plan, and design standards are described for new, existing, and unimproved streets.

Ms. Folberg received confirmation that re-doing a street such as Wakefield which is not paved and doesn't have a curb requires a consensus of existing homeowners because an assessment is involved. The property owners only pay an assessment when their street goes from gravel or chip seal to fully built out.

Talking about improved streets, Ms. Ecker explained that sidewalks are treated separately from the pavement. Mr. O'Meara continued that an improved street must have permanent pavement along with a curb and gutter system.

STREET DESIGN STANDARDS:

1. New And Existing, Unimproved Residential Streets that are Being Improved: When streets are improved or newly constructed, the standards below shall be strictly applied:
a. Standard Streets: 26 ft. in width from curb to curb.
b. If the right-of-way is less than 50 ft., the street width shall be a minimum of 20 ft. with parking allowed on one side only (generally the side without fire hydrants).

2. Existing, Improved Residential Streets: When previously built streets are reconstructed, this standard shall generally be applied. Exceptions may be considered when factors, such as those described in Section 4 below, are evident.
a. Standard Streets: 26 ft. in width from curb to curb.
b. Existing Street is 28 ft. or less in width: Street shall generally be reconstructed at the existing width.

3. Public Notice And Public Hearing: Whenever there is a street project where a change in the existing width is being considered, the MMTB shall have a public hearing to inform residents of the project and provide an opportunity for comment. If residents express a desire for a non-standard street width at a public meeting or through a public survey of street residents, those preferences shall be considered. However, engineering or safety factors listed in Section 4 below must also be present to support a design exception.

4. Exceptions and Modifications to the Width Standards: Any modification must be consistent with the Intent of these standards and the engineering publications upon which they are based. Street width exceptions may only be approved to a minimum of 20 ft. and a maximum of 30 ft. Modifications to street widths may only be considered under certain specified conditions.

Board members made changes to the specified conditions as follows:

- Condition 4 (d) should read - "Street is adjacent to a school, religious institution, City park, multiple-family residential development, or other use with access that generates higher traffic volumes."
- Condition 4 (e) should read - "Presence of street trees, especially healthy, mature trees such that rebuilding the road as proposed would result in the removal of two or more trees in any given block.
- Condition 4 (g) reads - "Street may be as narrow as 20 ft. with parking on one side only if right-of-way is less than 50 ft."

5. Boulevard Streets: Reconstruction of streets with a boulevard, median, or other unique design feature shall be reconstructed to match the current configuration unless geometric changes are needed based on safety or engineering analysis.

The chairman voiced concern that a street's effective width gets narrower in the winter with snow plowing. There is no way a 10 ft. fire truck can get down his street in the winter. He thought the board should study effective widths of streets and decide whether emergency vehicles can get through streets under a certain width in the winter. If not, the side designated for parking can be alternated every other year. Ms. Ecker said the Fire Dept. has indicated there are really only a couple of streets where they have difficulty.

The discussion concluded that with this document the board is not boxed into one particular solution, but guidelines are given. Documented factors for an exception must exist.

The board agreed to add a seventh goal for identifying a standard road width for residential streets: Storm Water Runoff Management.

Motion by Ms. Edwards

Seconded by Ms. Folberg to recommend approval to the City Commission of the revised Residential Street Width Standards with the inclusion of seven additional goals where the seventh is "Storm Water Runoff Management." Also, in section 4 (d) change "church" to "religious institution." In section 4 (e) add at the end of the sentence "on any given block." Finally, in section 4 (g) remove the typo at the end.

There were no comments on the motion from members of the public at 6:35 p.m.

Motion carried, 5-0.
VOICE VOTE
Yeas: Edwards, Folberg, Rontal, Isaksen, Schafer
Nays: None
Absent: Slanga

2’

2’

City of Birmingham
A Walkable Community

PUBLIC NOTICE

STREET WIDTH PUBLIC HEARING SCHEDULED
MULTI-MODAL TRANSPORTATION BOARD
YOUR INPUT IS REQUESTED
248-530-1850
www.bhamgov.org/publicnotices

Notice Sign
Located on streets with speed limits of 25 mph

- The new assistant finance director is very experienced with these processes.

MOTION: Motion by Commissioner Boutros, seconded by Commissioner Hoff:
To approve the Online Banking Policy as presented by Finance Director/Treasurer Gerber, with the correction on page three.

VOTE:	Yeas,	7
	Nays,	0
	Absent,	0

06-168-18 CROSSWALK PAVEMENT MARKINGS – MATERIAL OPTIONS

Assistant Planner Chapman reviewed the May 23, 2018 memo to City Manager Valentine regarding material options for the crosswalk pavement markings.

Assistant Planner Chapman explained:

- HPS-8 has a high application cost and, since it is a newer product, has not yet been sufficiently tested in the region to know the material's longevity. This is why the MMTB did not recommend using HPS-8 on all City crosswalks.
- Polyurea adheres better to concrete and less well to asphalt, but still within the satisfactory range for both surfaces.
- To the average viewer, the marking materials are largely visually indistinguishable from each other.

Commissioners DeWeese and Nickita agreed that this is a work-in-progress and that the City will make updates to the marking material if necessary as the different materials are tested.

MOTION: Motion by Commissioner Nickita, seconded by Commissioner DeWeese:
To approve the following materials as recommended by the Multi-Modal Transportation Board on January 4, 2018: Polyurea on all major concrete streets and HPS-8 on all major asphalt streets within the Central Business District, Triangle District, Rail District, and waterborne paint on all other streets. Depending on visibility needs and average daily traffic, polyurea or HPS-8 may be used for crosswalks adjacent to schools.

VOTE:	Yeas,	7
	Nays,	0
	Absent,	0

06-169-18 RESIDENTIAL STREET WIDTH STANDARDS

Planning Director Ecker presented the May 18, 2018 memo to City Manager Valentine from Planning Director Ecker, Police Commander Grewe and City Engineer O'Meara.

Commissioner Nickita thanked staff for a very good foundation, and suggested:

- An introduction outlining goals for Birmingham infrastructure, with attention towards 'complete streets' and other guiding concepts.

- Making pedestrian safety, walkability, neighborhood enhancement, and building upon the goals of the master plan the express and primary objective of developing the City's infrastructure.
- Acronyms in the Birmingham residential street design standards should be spelled out for the benefit of people who may not be familiar with them.
- Cost or current potential for disruption should not be weighted very heavily as exceptions to the 26' standard since residential roads remain as-built for upwards of forty years.
- Street adherence to or deviation from the standards should also take the widths of neighboring streets into account. This means bullet point two under the second street design standards should say that the street width may remain the same, but exceptions should be provided for circumstances in which a street would not remain the same width.
- The lettered points under section four should include:
    - Does it adhere with complete streets?
    - Is it accommodating multi-modal and mobility issues?
    - Did we consider the neighborhood context and character, identifying the adjacent street infrastructure and the potential effect of the proposed size?
    - How is the overall neighborhood built, and how does the City want it to be built in the long term? How does this proposed street-width fit into those considerations?

Planning Director Ecker noted:

- Section four includes the requirement that any exceptions adhere to the Intent of the standards.
- The MMTB did not focus on multi-modal considerations here because those are separately considered in the multi-modal plan which primarily do not address residential streets.
- Agreement with Commissioner Nickita's feedback and said she would bring it back to the MMTB for addition.

Commissioner Sherman commended the MMTB and suggested:

- Deleting "Exceptions may be considered when factors, such as those described in Section 4, are evident" from section two.
- Rephrasing the second bullet point in section two as "**Existing Street is 28 feet or less in width**: If existing street width is 28 ft. or less in width, street may be reconstructed at the existing width provided there is a reason prescribed under section four."
- Following Commissioner Nickita's points for section four, with special focus on the nature and composition of the neighboring streets.

City Engineer O'Meara explained:

- Part of the reason for keeping existing 28' streets at 28' was to avoid debate and frustration on the part of the residents, since it was only a 2' difference.
- Some streets are smaller than 24', so the text was an attempt to not have to widen streets if there was no reason to do so.

Commissioner Sherman suggested that most of the time there will be an exception leading to a reduction in the street width from 28', making the second bullet point in section two superfluous.

Mayor Harris agreed to changing the second point in section two to read “may” instead of “shall”, but said rephrasing the second point in section two to reference the exceptions in section four would have the undesired effect of precluding resident opinion from being a factor in a potential street width-change.

Mayor Pro Tem Bordman said:

- ‘Neighborhood characteristics’ should be made explicit including block length, sidewalks, size of public green space, right-of-way, the distance between sidewalks and the fronts of houses, the size of the lots themselves, the sizes of the homes, the length of time the road has been at its current width and other factors.
- Most studies show that a street-width range of 26’ to 28’ encompasses best practices; not a uniform application of a 26’ street-width.
- Neighborhood preference for street-width should have greater emphasis. It should not be the sole criterion considered, but should be more central than it currently is.

Planning Director Ecker explained that:

- Commercial standards will apply to both commercial blocks and fully commercial streets, and the residential standards will apply to both residential blocks and fully residential streets.
- The street-width standards were approved by the Fire Department.

Commissioner Hoff said changing ‘shall’ to ‘may’ is a positive change, and the exceptions should remain where they are in section two. She also agreed with Mayor Pro Tem Bordman in that resident preference should be a larger factor.

Planning Director Ecker clarified that, as it stands, resident opinion would not sway a decision unless another reason for an exception existed.

Commissioner Nickita clarified this is a policy, not an ordinance, which can be deviated from should the City find it prudent.

Mayor Pro Tem Bordman suggested adding “Where neighbors have a preference for a particular street-width, that preference may only be considered if one or more of the following conditions also exist” as the last sentence in the introduction in section four.

Commissioners Nickita and Sherman suggested this point was identically included in section three.

City Engineer O’Meara said certain streets, such as ones with churches or schools, may have 1,500 vehicles pass through daily.

Planning Director Ecker said the 1,500-vehicle threshold was approved by the City’s consultants and the Police Department.

Commissioner DeWeese:

- Thanked the MMTB and city staff for their work on this document.

- Suggested it would be most beneficial if this document were clear enough that the public could understand it.
- Said cost considerations can be addressed at the discretion of the Commission.
- Pointed out that sometimes more traffic, paradoxically, is better-handled with a narrower street.
- Concluded that the document should be returned to the MMTB and the edits made.

City Engineer O'Meara suggested that consideration of on-street parking utilization would reveal some of the 'neighborhood characteristics' Mayor Pro Tem Bordman wanted considered because on-street parking utilization would reveal information about a neighborhood's average lot-size: small lots likely lead to more frequent on-street parking, and larger lots likely lead to more infrequent on-street parking.

Mayor Harris said one conflict is whether neighborhood input is an equally-weighted criterion, or is only considered in conjunction with other criteria.

Planning Director Ecker recommended changing the second point in section two to read "Existing Street is 28 feet or less in width: If existing street width is 28 ft. or less in width, street may be reconstructed at the existing width," which would have the intended effect of the exception-clause in the introduction to section two being applicable to this statement.

There was consensus that if the last two sentences from section three were moved to section four as a criterion, that would sufficiently resolve various Commissioners' concerns.

Mayor Harris, with the consensus of the City Commission, deviated from the agenda to address Item 6H before item 6G.

06-170-18 PARKS BOND OPPORTUNITY

City Manager Valentine made a presentation based on his memo to the City Commission dated May 23, 2018.

City Manager Valentine said:

- The City Commission authorized $25 million in 2001, but the City has spent about $20 million.
- Delineated costs of the Parks and Recreation Master Plan are about $10 million at this time, but there are other projects in the Master Plan that have not had their funding requirements laid out yet.
- The Parks and Recreation Board will be coming back to the Commission with project priorities, and what could realistically be completed in the next five years.
- The Commission should approve the next bond issuance by the middle of August if they want it to appear on the November 2018 ballot.
- The City will consult with bond council to make sure the City's practices are consistent with what is required.
- The conceptual Master Plans will not be enacted without the requisite further study.

City of Birmingham
A Walkable Community

MEMORANDUM

Planning Division

DATE: **June 23, 2018**

TO: **Multi-Modal Transportation Board**

FROM: **Lauren Chapman, Assistant City Planner**

APPROVED BY: **Jana L. Ecker, Planning Director**

SUBJECT: **Implementing a Bike Share in Birmingham**

Long Range Planning

At the City Commission's Long Range Planning Meeting on January 27, 2018 Planning Director Ecker explained that the MMTB would be studying a bike share program for Birmingham.

Commissioner Nickita stated it might be beneficial to collaborate with other municipalities along the Woodward corridor in a larger bike share program, since other communities have also expressed interest.

Mayor Pro Tem Bordman stated:

- She would like to see helmets available for renting as well.
- Child-size bicycles should be available.
- Birmingham needs to make sure that the rental pricing is not prohibitively expensive.

Commissioner DeWeese suggested, since the City already utilizes church parking lots for office commuters to park and carpool into the City, office workers could benefit from bicycle renting stations near those church parking lots as well. Commissioner DeWeese suggested the City could subsidize this use because it is less expensive for the City and eases congestion in the parking garages. There was consensus that it would be a good idea to look into.

Last Meeting

Planning Director Ecker presented on bike share. There are different ways these programs can be funded. The benefits are:

- Provides an additional mode of travel for people;
- Decreases reliance on automobiles;
- Provides that last mile link for commuters when they get off and their destination is still far.
- Helps circulation between Downtown and Triangle District, Rail District, and commercial areas throughout town; and
- Provides the means for a pleasurable tour around town.

The board is expressed skepticism that Birmingham residents would utilize bike share. The Board discussed that the Neighborhood Connector Route is in pieces and cannot be used the

way it is intended. Maybe the priority should be to finish the Connector Route and then invite people to use it. The board expressed that bike infrastructure should be a priority and not promoting cycling.

Board members agreed that they need to understand the financials behind the implementation of bike share and whether it will it be a major expense for the City.

The board was lukewarm on exactly how the City would use bike sharing. Most of the board members stated that they would traverse downtown on foot and prefer that others would do the same. The city is small enough that everyone could walk and if people want to bike, they should have their own bike.

Engineering Director O'Meara added that Zagster could look into setting up bike stations at the shuttle lots for employee parking (the last mile).

Introduction

This memo is a follow-up to the presentation that was presented to the board at the June meeting. The goal is to address some of the questions/concerns board members expressed. Another goal is to ask questions of the board in order to understand better as to if and how city staff should move forward with bike share.

Who uses bike share and why do they use bike share?

Anyone can use bike share, for any reason, at any time.

- Commuters
    - According to the 2016 American Community Survey, 73.5% of Birmingham residents worked in Oakland County. The Survey does not delve into more details about where residents commute. Bike share is perfect for short distance trips around town. Riders use bike share to get to work, school, and to access other forms of transportation such as bus and rail. Bike share is also ideal for running errands, going to appointments or meeting up with friends.
- Residents
    - Bike share is useful even if you own a bike. Perfect for short, one-way trips, bike share can be used when you do not have your bike with you. Bike share helps get a person where they need to go without being concerned about the security of a personal bike. Bike share spares personal bikes from wear and tear.
    - Even if most city residents can afford a bike (which is a presumptuous idea), some residents may not feel that they would use it enough to warrant buying, storing, and maintaining a personal bike.
    - Even residents who do not use bike share could benefit from it. Residents who live near Seaholm High School often complain about students parking on residential streets. Giving students an additional way to travel may mitigate the problem.
- Recreating
    - The City has nearly 2 miles of trails. Some people may use bike share for exercise or simply exploring the city.

  - 22.41% (78 out of 348) respondents to the Parks and Recreation Master Plan Survey indicated that they would like to see bike rental opportunities within the City. While bike rental and bike share are not the same thing, both give people an opportunity to access and use bikes that they personally do not own. Bike share was not an option on the survey for respondents.
- Visitors
  - Drivers who are 16 and 17 years old cannot rent cars. Michigan is a rare state that allows drivers to rent cars at the age of 18; some car rental companies do not allow drivers under 25 to rent cars unless they are on military orders. In the vast majority of cases, drivers ages 21 to 24 still have to pay a daily surcharge (varying by location) that averages around $25 per day.
  - Even if residents have and prefer to use their own bikes, they may not have extra bikes for guests to use if they want to go on a group ride.

Financials

The costs per station vary depending on the number of bikes, number of docking points, and station technology. Costs start at approximately $1,200 per bike. Specific station costs will be determined as station locations and desired types of technology are identified. Both Zagster and Shift Transit have stated that pricing information is proprietary in order to protect their brand; they do not share unit costs. The City could set an amount it would be willing to contribute for a trial and revisit the financials once a system is established.

Shift Transit (MoGo) and Zagster work with partner cities to find funding partners and station sponsors. An official from Ferndale stated that Mogo leads the sponsorship portion. MoGo currently has over 20 partners. Some possible sponsors in Birmingham are businesses in the following industries: restaurants and grocery, sporting goods and apparel, health and fitness, and hospitality. The City of Southfield did not pay anything for the bike share the City Centre (a special assessment district) and other sponsors paid for the venture.

Grant opportunities are available. MoGo (Detroit's bike share) received a Transportation Alternatives Program (TAP) grant for $1,075,001 for FY 2016. The grant helped provide for the purchase and installation of 35 bike share stations and related amenities throughout greater downtown Detroit. Better Bike Share Partnership awarded MoGo a $35,000 grant to facilitate a conversation about mobility and transportation needs, and how bike share can play a role in meeting some of those needs. SEMCOG awarded a TAP grant of $495,380 to the cities of Berkley, Detroit, Ferndale, Huntington Woods, Oak Park, and Royal Oak for a multi-community bike share. Later in this memo, there is more information on the partnership. Most publicly owned bicycle sharing systems utilize funding from governmental and/or charitable sources.

Transit input

<u>SMART</u>
One of SMART's criteria for service development is sustainability. Two of the ways that they encourage sustainability is to participate in the development and growth of new technology and connect our enhanced services with all mobility options; and to nurture partnerships with various mobility groups including, but not limited to: Lyft, Uber, Splt, MoGo Bike Share, Ford Mobility, MDOT, etc. **Bike share bikes are not intended to be taken onto buses.**

Transit Riders United (TRU)
TRU's Executive Director, Megan Owens, stated, "While it's not something we directly work on, we generally believe bike shares can be a great addition to [a] community's transportation options. Birmingham is probably too small to make a bike share be effective complete[ly] on its own, but if Birmingham were to partner with Royal Oak, Ferndale, Berkley, and/or other neighboring communities on a joint bike share, that could be a wonderful way to help people travel throughout and between your communities."

Bike lanes

It is important to note that bike sharing and bike lanes have somewhat of a "chicken and egg" situation. Meaning that one does not have to come first; having bike lanes could complement implementation of a bike share and having a bike share could justify the installation of new bike lanes and bolster use of existing lanes. Most of the communities that city staff has spoken to reported that bike infrastructure increased after the implementation of bike share.

Bike Share Types

Docked (station based) - Bikes are kept at self-service terminals. Individuals pay with a credit/debit card at any of the hubs to check out a bicycle for a short period.

- The individual is responsible for any damage or loss until he/she returns the bike to another hub.
- The operator withdraws money from the user's credit/debit card if user does not return the bike within the subscription period, or significantly damages the bike.

Long-term checkout (bike library systems) - User can check out a bike for a long period (typically days or weeks)

- Lower usage frequency per day- 3 uses on average compared to 10-15 uses experienced with other schemes

Board members indicated that they are less in favor of dockless and unregulated bike shares. Not all dockless bike shares are the same. Providers like LimeBike and Ofo do not have any docks to which users lock bikes. Pace (Zagster's dockless bike share) and Cyclehop (Beverly Hills bike share operator) have docks, but users are not required to lock bikes to them. They may lock bikes to public racks or to docks. Kiosks are optional with some dockless systems. This increases the flexibility of deployment, and reduces costs and station footprint significantly. For kiosk optional systems, kiosks should be at high-traffic and tourist locations where walk-up registration is expected.

Dockless - Users need not return the bike to a kiosk or station; rather, the next user can find it by GPS.

- Able to serve all areas of the community, including those traditionally underserved by public transportation or traditional bike shares.
- Riders may have to find an alternative mode for return trips, as another user could have checked out the bike they initially rode.
- Dockless bike shares are often cheaper than docked bike shares.

- Due to the heavy reliance on smart-phones, this scheme may not be as equitable as other schemes.

Unregulated- Bikes are released into an area for use by anyone; sometimes the bikes are restricted to certain boundaries. City staff does not recommend this type.

- Once a user reaches their destination, they are expected to leave the bike unlocked in a public area.
- Ready availability of such bikes is rare, and the original rider may need alternative transport for the return trip.
- Historically suffered large loss rates from theft and vandalism

BIKES

Many bike share programs paint their bicycles in a bright solid color; this helps to advertise the program and deter theft. Many large-scale bike sharing programs have designed bikes using specialized frame designs and other parts to prevent disassembly and resale of stolen parts. When users can return bicycles to any station in the system, they are more likely to use a bike for one-way rides. Thus, one bike may take ten to fifteen rides a day with different users and can be ridden up to 6,200 miles a year.

Most bike shares use traditional two-wheeled bikes. However, other bikes can accommodate users who struggle to or cannot use traditional bikes. Adaptive bikes are designed to be inclusive of riders with disabilities, although they are not exclusively for special needs individuals. City staff identified seven different types of adaptive bikes: front-loading trailer, hand tricycle (handcycle), in-line recumbent tandem, recumbent tricycle, side-by-side tandem, two-wheeled tandem, and the upright tricycle.

BIKE SHARE AGENCIES

Operator	Headquarters	Type(s)	Year founded	US Locations	Average Cost		
					Hour	Month	Year
BCycle	Waterloo, WI	Docked	2010	31	$6/ day	$10	$65
Cyclehop	Santa Monica, CA	Docked	1997	12	$7	$25	$99
LimeBike	San Mateo, CA	Dockless	2017	35	$1 /ride	$30	-
Ofo	Beijing, China	Dockless	2014	25	$1 per hour		
Shift Transit	Longueuil, Quebec	Docked	2008	3	$8/ day	$18	$70
Spin	San Francisco, CA	Dockless	2016	19	$2 per hour		
Zagster	Cambridge, MA	Docked; Dockless	2007	135	$3	$10	$25

Examples of cities with bike shares

City staff reviewed several communities to explore how different communities approached implementing a bike share.

City	2010 Population	Year founded	Stations	Bikes	Type	Operator	Cost		
							Hour	Month	Year
Huntington, IN	17,541	2016	3	10	Docked	Zagster	$3	$10	$25
Port Huron	30,184	2017	4	20	Docked	Zagster	$2	-	$20
Southfield	71,739	2017	7	23	Docked	Zagster	$2	-	$25
Joint Cities bike shares									
Kent County, MI (9 branches)	602,992	2016	9	32	Long-term	Kent Dist. Library	Free 2 day rental Overdue fee: $20/day		
Metro Boston (15 cities)	59,450	2017 (expansion 2018)	-	≈2,000	Dockless	Spin & LimeBike	$1 per half hour		
Beverly Hills, CA (4 communities)	203,843	2016	135	830	Dockless	Cyclehop	$7	$25	$99
Metro Detroit (6 cities)	841,491	2017 (expansion 2019)	43	430	Docked	Shift Transit	$8/ day	$18	$80

Dearborn is another Michigan city that has established a bike share. Zagster operates Dearborn's bike share with similar pricing to the other systems the company operates. City staff believes that Port Huron and Southfield are closer to Birmingham in population and location, respectively; therefore, there is no further exploration of the Dearborn's bike share in this memo.

Beverly Hills, CA- Beverly Hills Bike Share

The Beverly Hills Bike Share program was launched in 2016. Riders can use the Social Bicycles smart phone app or the Beverly Hills Bike Share website to sign-up, find available bikes and hubs, and reserve bikes. Beverly Hills Bike Share is a part of Bike Share Connect, which merges it with Breeze Bike Share (Santa Monica), and WeHo Pedals (West Hollywood), and Bruin Bike Share (UCLA).

For the Pay As You Go plan, minutes are purchased in advance and balance of available time is reduced when used, with no expiration. Bikes can only be locked to bike share hubs or public bike racks. The rider is solely responsible for any moving violations and/or fines incurred while using the bike. The minimum age is 18 to check out a bike with a credit card and 16 to ride.

Detroit, MI- MoGo

Wayne State University's Office of Economic Development planted the seeds for MoGo in 2012. Several local foundations and corporations helped fund a feasibility study in 2013, this served as the road map for implementing a bike share in Detroit. MoGo became a nonprofit affiliate of the Downtown Detroit Partnership in 2015.

MoGo is made possible through a partnership with Detroit's Department of Transportation, who helped secure federal funding for MoGo and select the system's equipment provider and operator, PBSC Urban Solutions and Shift Transit. MoGo is available 24 hours a day, 7 days a week, and 365 days a year, with the exception of severe weather. Riders must be 13 years or older. Parents/guardians are fully liable for all injuries, damages, and costs caused by a minor's use of the service.

Adaptive Bikes

Adaptive MoGo is a pilot program that provides cycling options for riders of all abilities. With 13 different cycles, Adaptive MoGo accommodates a wide range of rider needs. A partnership with Wheelhouse Detroit & Programs to Educate All Cyclists (PEAC) made adaptive MoGo possible. For riders needing additional support, they can ride with a companion cyclist. All companion cyclists will receive a free daily MoGo pass. Adaptive bikes are not expected to be part of the expanded system at the very beginning.

<u>Multi-community collaboration</u>

SEMCOG awarded $495,380 to the cities of Berkley, Detroit, Ferndale, Huntington Woods, Oak Park, and Royal Oak for a multi-community bike share program. Ferndale led the application process and brought the other cities to the table. The communities worked on the collaboration for about six months. The newly expanded system is expected to be operational by summer of 2019. Currently, there no specific station locations proposed.

Ferndale officials thought it made sense to try to put together a system that would work well with what was going on in Detroit. That way, a user could be able to use the same system from one part of the region to the other. Ferndale began the conversation with Detroit because the two communities were already working together on plans for the Livernois corridor. After Detroit, Ferndale approached Royal Oak, Berkley, Huntington Woods, and Oak Park. After those communities were on board, recruiting for the grant application stopped because Madison Heights and Clawson were not interested and the deadline for the grant was close.

Bike lanes

Other than Detroit, none of the cities has much in the way of bike infrastructure. Royal Oak has one road with dedicated bike lanes, 4th Street; those lanes extend for 1.19 miles. Berkley currently has no dedicated bike lanes. Oak Park has a well-connected trail network, but no dedicated lanes yet. SEMCOG awarded $491,913 to the cities of Oak Park and Ferndale to add bike lanes to 1.6 miles of Nine Mile Road.

Huntington, IN

There are three bike stations; at Huntington University, the library, and Drover Park. The plan is designed for additional stations in the future as needed. A city official stated that they "started this program to create another amenity for our citizens—something to get people outside and active. It's also

something to attract tourists to explore Huntington. This will also be something to promote our growing multi-purpose trails and our on-street bicycle route systems. This project is a small part [of] a larger goal to become a designated bicycle-friendly community through the League of American Bicyclists." The city of Huntington did receive this recognition.

A Huntington official offered several recommendations for starting a bike share. Before starting finding funding partners lock them in to a three or four year deal to make the program sustainable; Huntington only did one-year agreements. Employees get complimentary bikes and companies received advertising on stations and bikes for agreeing to sponsor the program.

The community's continued investment in bicycle transportation prompted the city's decision to have a bike share. Huntington had maybe ½-mile trail system in place before implementing the bike share and it was not connected. Since the beginning of the bike share, the trail system has expanded to 6 miles, and is planned to be 8 miles long by end of year. The bike share has connected the community as a whole and benefitted lower income residents.

Most users are university students; the bike share gives students a way to get downtown. It should be noted, however, that the student population of the university was only 913 in 2017. Therefore, even if the student population was not included in the 2010 census there are still fewer people in Huntington than there are in Birmingham.

The Huntington system is not currently expecting to establish new stations. The system does not currently have adaptive bikes, and the city is not anticipating having them in the near future. The system has only experienced on problem during the first two years, one missing bike. The rider had to pay for the bike.

A staff member from Huntington and a Zagster representative meet monthly. A city official stated that although the first year was "rocky" they have been great to work with. The city staff member said that the city has been able to take a "hands-off" role and Zagster handled all of the day-to-day operations. One of the reasons for the 1st year was rocky that the local bike shop left and after that departure, coordination between Zagster and the city was difficult.

Kent County, MI- BikeKDL

Nine branch locations of the Kent District Library (KDL) have bicycles available for checkout. Each KDL Cruiser (available from roughly May to October) comes with a basket, a bike lock and key.

Anyone older than 17 with a KDL card in good standing can check out KDL Cruisers. Adults can sign waivers for child(ren) as long as the adult accompanies the child(ren) on the ride. Participants must sign a borrower's agreement and waiver. Riders can check out bikes for up to two days and must return bikes directly to a staff member at the branch where they checked out the bike before the library's closing time.

Malden, MA

In 2017, a pilot program with two dockless bike share programs debuted in the City of Malden. The Station-free Bike Sharing pilot program ended on December 8, 2017. After Malden's pilot program ended, The Metropolitan Area Planning Council (MAPC) announced that LimeBike and Spin would provide dockless bike share services for 15 participating communities in Metro Boston this year: Arlington, Bedford, Belmont, Chelsea, Everett, Malden, Medford, Melrose, Milton, Needham, Newton, Revere, Waltham, Watertown, and Winthrop.

"People who live, work, and visit the service area will be able to rent bikes using a smart phone, and ride them anywhere in the 15-community region, starting at a cost of $1 for the first 30 minutes," said MAPC's Executive Director Marc Draisen. "The new system will incorporate station-less, smart bike technology, and will also feature some pedal-assist electric bicycles, or 'e-bikes,' to make cycling uphill and into headwinds less challenging. And, the system will be launched at no cost to the participating cities and towns."

This new regional system will allow users to pick up and drop off a bicycle virtually anywhere in the participating communities, although some cities and towns may choose to assign designated parking locations. Several communities, including Waltham, Malden, Chelsea and Revere, piloted dockless bike share in fall 2017, and are now joining the regional effort to make cross-border travel easier and safer.

MAPC solicited proposals for a no-cost bike share system on behalf of the 15 municipalities late in 2017, and 9 qualified applicants submitted detailed proposals. The agency selected LimeBike and Spin after a review process early this year, which included interviews with an evaluation committee of MAPC and municipal officials. MAPC also convened a panel of experts in biking and bike share technology to advise the agency and the evaluation committee. Both companies will provide service to all participating communities at no cost to the cities and towns.

MAPC's request for proposals came in response to the influx of dockless bike share companies looking to enter into U.S. markets. While this new service MAPC's efforts will be one of the first widespread regional systems spanning over a dozen cities and towns, these privately-funded dockless bike share companies have already launched several systems across the country.

Users lock and unlock bicycles with a smartphone, but measures will be taken to ensure those without smartphones, and those who prefer to pay with cash, can use the system. It is expected the system will be operational in time for summer 2018.

Port Huron, MI

City officials and local business owners have said they hope the bike share brings more tourism to Port Huron. The program was announced in spring of 2017. Members get their first hour free. Users will incur a $24 overtime charge if they kept the bike longer than a day. Blue Water Area Transit, St. Clair County Community College, the Downtown Development Authority, Blue Water Convention and Visitors Bureau, and Port Huron law firm Fletcher Fealko Shoudy and Francis are partners.

Port Huron officials have not yet been in contact with the City about their experiences.

Southfield, MI

The City of Southfield, in partnership with Zagster, launched a bike share program that provides residents and visitors with a convenient, affordable and healthy way to get around town. The Southfield City Centre Advisory Board sponsored a trial for the first year of the bike share program in 2017.

Southfield decided to have a bike share because the community wanted to be more pedestrian and bike friendly and to attain and attract young talent. The automobile dominated streetscape did not leave room for the creation of a traditional downtown; having a bike share helps connect the community.

The City did not do a free trial; Zagster may not have offered free trials when Southfield decided to implement the project. Prior to the implementation, the city did not have many bike lanes, but the bike share has encouraged the creation of more.

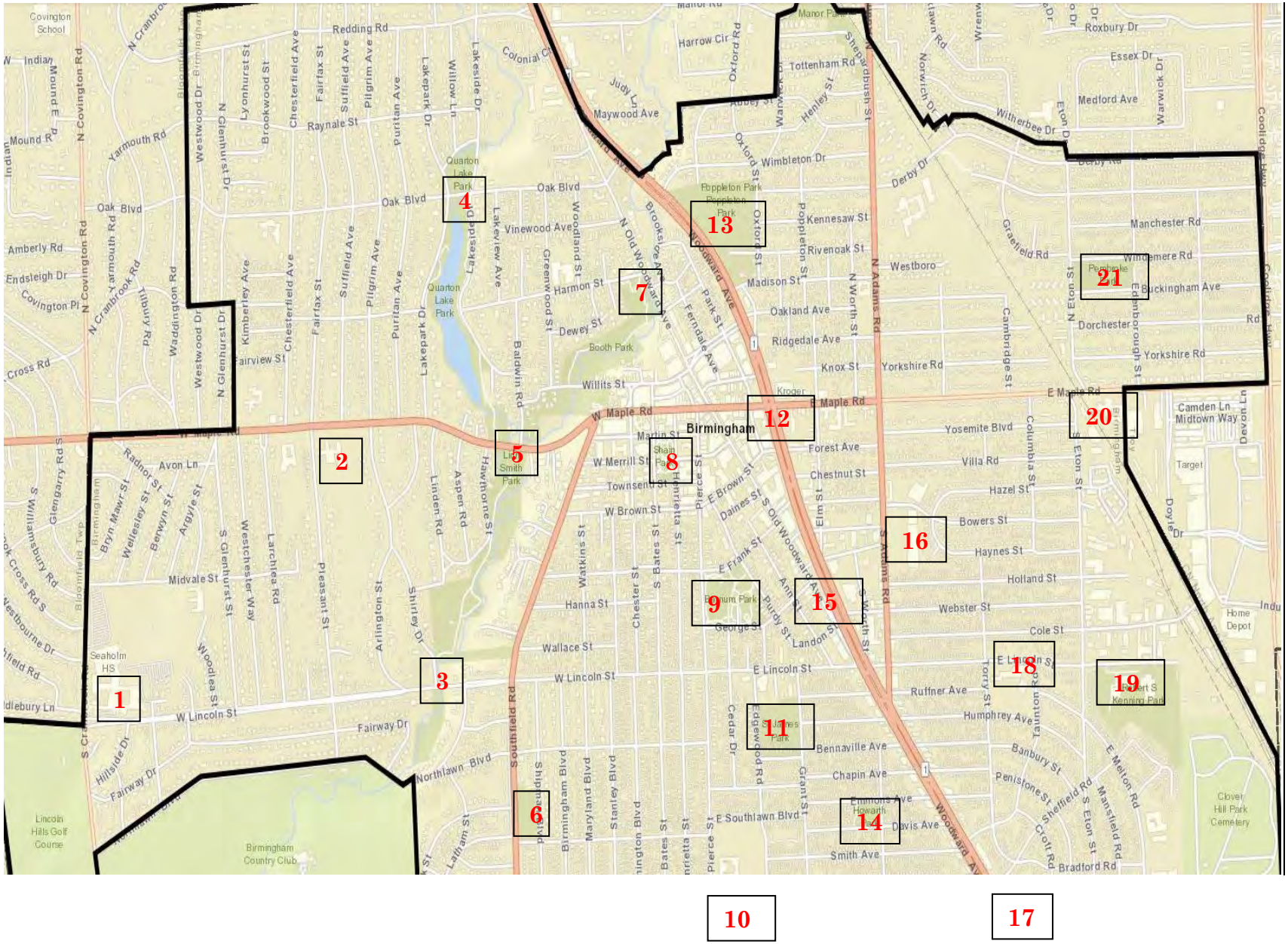
Most users are Lawrence Tech students, but the system has riders of many ages. Riders must be at least 18 years old. There are currently over 200 active user memberships. The system has not had any major incidents. The city of Southfield put up no money. Each bike cost approximately $1,800. Each station holds 3-6 bikes and comes with a customizable sign.

One city official characterized the relationship with Zagster as "rocky". There were several delays and missing parts. It took 8 months to get an adaptable bike. The relationship has improved recently. The city is willing to give the company another year. The city is still behind the product and the concept. Zagster does a good job of providing ridership metrics. Other businesses have expressed interest in hosting stations, so expansion may happen in the future. The City had to find sponsors for the stations. The best aspect of the program is the positive publicity and good advertising it provided.

Potential station locations in Birmingham

The locations on the list are not prioritized. The locations are listed from west to east. Stations could be located in the right-of-way between the sidewalk and the street, on currently unused public property, or on street where parking is currently not permitted. It is not recommended that station locations be prioritized until the board decides on what type of bike share and what company the City chooses.

	Name	Notes
1	Seaholm High School	There are 189 staff members listed and the graduating class of 300
2	First United Methodist Church	Permit parking off-site parking lot
3	Linden Park	
4	Quarton Lake Park	
5	Linn Smith Park	
6	Crestview Park	
7	Booth Park	
8	Shain Park	
9	Barnum Park	
10	First Church of the Ascension in Beverly Hills (14 Mile and Pierce)	Permit parking off-site parking lot
11	St. James Park	
12	FAST bus stop	Maple and Woodward
13	Poppleton Park	
14	Howarth Park	
15	555 S. Old Woodward	Large green space south of building
16	Adams Square	
17	FAST bus stop	14 Mile and Woodward
18	Our Shepard Lutheran Church	Permit parking off-site parking lot
19	Kenning Park	
20	Whole Foods	Wide area in right-of-way
21	Pembroke Park	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Birmingham
Covington School
Seaholm HS
Lincoln Hills Golf Course
Birmingham Country Club
Quarton Lake Park
Booth Park
Kroger
Target
Home Depot
Clover Hill Park Cemetery
Woodward Ave
W Maple Rd
E Maple Rd
W Lincoln St
E Lincoln St
Southfield Rd
N Adams Rd
S Adams Rd
Oak Blvd
Redding Rd
Maywood Ave
Harrow Cir
Tottenham Rd
Wimbleton Dr
Kennesaw St
Rivenoak St
Madison St
Oakland Ave
Ridgedale Ave
Knox St
Yorkshire Rd
Westboro
Forest Ave
Chestnut St
Villa Rd
Hazel St
Bowers St
Haynes St
Holland St
Webster St
Cole St
Ruffner Ave
Humphrey Ave
Bennaville Ave
Chapin Ave
Davis Ave
Smith Ave
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Northlawn Blvd
Fairway Dr
Midvale St
Avon Ln
Willits St
Hanna St
Wallace St
Dewey St
Harmon St
Vinewood Ave
Roxbury Dr
Essex Dr
Medford Ave
Witherbee Dr
Manchester Rd
Windemere Rd
Buckingham Ave
Dorchester
Yosemite Blvd
Camden Ln
Midtown Way
Devon Ln
Doyle Dr
Bradford Rd
Penistone St
Banbury St
Taunton Rd
Cambridge St
Graefield Rd
Derby Dr
Yarmouth Rd
Amberly Rd
Endsleigh Dr
Covington Pl
Cross Rd
Westwood Dr
Waddington Rd
Kimberley Ave
Chesterfield Ave
Fairfax St
Suffield Ave
Pilgrim Ave
Puritan Ave
Lakepark Dr
Willow Ln
Lakeside Dr
Lakeview Ave
Baldwin Rd
Hawthorne St
Aspen Rd
Linden Rd
Pleasant St
Arlington St
Shirley Dr
Woodlea St
Westchester Way
Larchlea Rd
Glengarry Rd S
Bryn Mawr St
Wellesley St
Berwyn St
Argyle St
Hillside Dr
Watkins St
Chester St
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Bonnetta St
Pierce St
Cedar St
Edgewood Rd
Grant St
Shipman Blvd
Birmingham Blvd
Maryland Blvd
Stanley Blvd
Latham St
Ferndale Ave
Park St
Brooksie Ave
Woodland St
Greenwood St
Oxford St
Henley St
Sheffield Rd
Norwich Dr
Eton St
Lincoln Hills Golf Course

NEXT STEPS

Conduct a feasibility study

A feasibility study can provide the information necessary to determine if bike sharing makes sense for the City, and if so, how to move forward with implementation. A feasibility study is meant solely as a planning tool to arm decision-makers with the information necessary to determine if bike sharing makes sense for their communities, and if so, how to move forward with implementation. A feasibility study should last for at least a year, two to three years is ideal however. Less than a year does not allow for riders and potential riders the opportunity to gain familiarity with the system or for the system to gain momentum. The estimated cost for a feasibility study is $100,000; however, Zagster offers a free feasibility study.

If the City decides to implement a bike share, the following options are available:

1.) Manage Own Bike Share

If the City wants to manage a bike share without the assistance of an outside agency, the bike share would likely be a long-term checkout system operated by DPS. A long-term checkout system would not likely have high ridership numbers because many City residents may own or otherwise have access to a bicycle. However, it could still serve as a valuable amenity for the community.

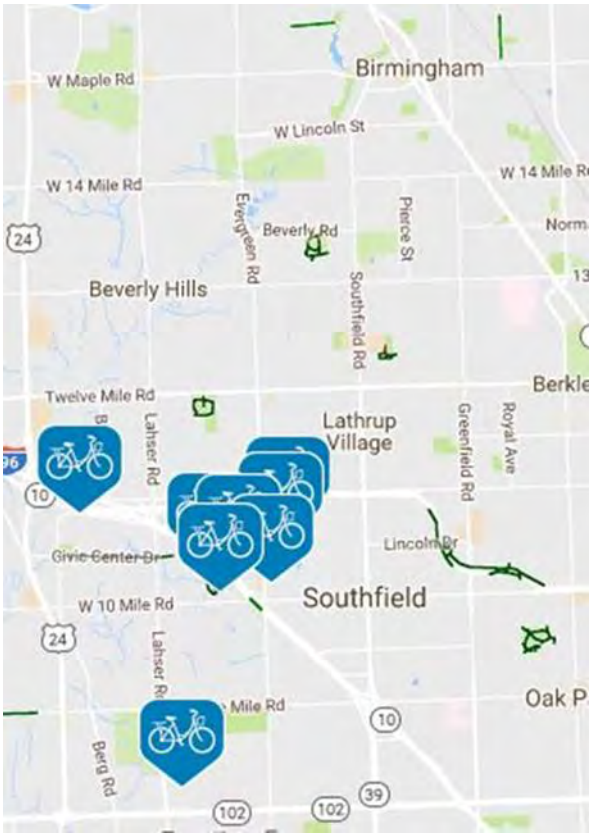
2.) Contract With A Bike Share Agency

Several agencies collaborate with communities of various sizes to begin and maintain a bike share. Six of those agencies were explored earlier. Pricing is highly dependent on what the City's goals for the program are. The number of desired bikes and stations are the key variables that determine the cost of implementation.

a. Joint Venture With Another City or Cities

In 2015, the Citi Bike system that began in New York City in 2013 expanded to Jersey City. One membership works for both Citi Bike New York and Citi Bike Jersey City.

The nearest Southfield bike share station is located on Evergreen just south of 11 Mile. Birmingham's city border at 14 Mile is approximately a 20-minute bike ride from that station. This close proximity could open the possibility for a partnership between the two cities. Southfield bike share is through Zagster. In order for the two systems to be compatible, Birmingham would also have to contract through Zagster.



Birmingham could collaborate with Berkley, Detroit, Ferndale, Oak Park, and Royal Oak, thus connecting a significant portion of Detroit and Southern Oakland County. In order to participate in the partnership Birmingham would have to contract through Sift Transit.

SUMMARY

The North American Bikeshare Association and the Better Bike Share Partnership will host Moving Forward Together, a joint conference that will focus on challenges and opportunities in the bike share space, in Portland, Oregon from September 4-7, 2018.

Breakout sessions may include presentations and discussion in the following areas:

- E-bikes, dockless bikes and other innovations
- Effective community engagement, ambassador programs and strategies for intersectionality
- Pricing and payment - what's new, what works, what serves
- Privacy concerns - balancing city programs with personal data
- Research beat - what are we learning and how do we use it?

The costs per station vary depending on the number of bikes, number of docking points, and station technology. Costs start at approximately $1,200 per bike. The 2018-2019 approved budget has allocated $10,000 for bike infrastructure; some or all of that money could be used to establish a bike share. Sponsors and grants could supplement a city-funded system.

If bike share is not favorable because there is "a lack" in existing bike infrastructure, what implementation of bike infrastructure would make board members more comfortable?

If bike share is favored:

What kind would the board prefer?

Recommendation: The City pursues docked (station based) bike share <u>or</u> dockless (kiosk optional). For dockless: Users would be required to lock bikes to public racks or company provided racks.

Is there interest in multi-community connections?

Recommendation: The City link with other communities in order to increase the effectiveness for Birmingham and other communities.

What company?

Recommendation: If linking with other communities the City would have to contract with the same systems MoGo (Shift Transit) or Southfield (Zagster) use. If not, City staff has no specific recommendation.

Should we provide accessible bikes now or withhold opinion until later?

City staff recommends that the MMTB consider accessible bikes after a bike share has been operational for at least a year.

Suggested Recommendation

To request quotes for a feasibility study for ___ (number of stations) and/or ___ (number of bikes).

OR

To revisit bike share in fall of 2019, after the launch of MoGo's expansion;

AND

To direct staff to contact MoGo about the possibility of having MoGo in Birmingham;

AND

To contact Zagster and request a presentation on what having them as a bike share partner would mean for the City of Birmingham.

OR

To dismiss the possibility of bike share for the time being.

City of Birmingham
A Walkable Community

MEMORANDUM

Engineering Dept.

DATE: **July 3, 2018**

TO: **Multi-Modal Transportation Board**

FROM: **Paul T. O'Meara, City Engineer**

SUBJECT: **Maple Rd. Reconstruction – Southfield Rd. to Woodward Ave.**

As you know, the City of Birmingham has committed to a three-phased program to reconstruct its major corridors in the Central Business District. Phase I construction, focusing on the central part of Old Woodward Ave., is currently nearing completion, with an expected completion in early August. The remaining two phases will consist of:

Phase 2 – Maple Rd. – Southfield Rd. to Woodward Ave. (Construction planned in 2020)
Phase 3 – S. Old Woodward Ave. – Brown St. to Landon Ave. (Construction planned in 2022)

While the Multi-Modal Transportation Board (MMTB) assisted with the initial street designs used in Phase 1, the City Commission assisted at a high level in the final design package. Per their direction, a planning consultant (MKSK) was hired and assisted the City in the conceptual design package now being constructed. Since there is a desire to be consistent and follow the design theme started in Phase 1 into the remaining projects, MKSK has been retained to assist again to develop the conceptual plans for Phase 2. This is a particularly smooth transition, given that MKSK has now been retained and is teamed with the City's traffic engineering firm F&V. Together, they have prepared the attached conceptual plans as a first review for the MMTB to assist the MMTB with all of its planning needs. It is expected that the initial MMTB comments will be taken at this meeting, and then initial comments will be taken from the City Commission. A final review by the MMTB is expected later this summer.

As plans are prepared for Phase 2, it is important to note that the City was fortunate to be awarded two federal grants to assist in covering the cost of this project. Grants include:

- A grant for $352,000, awarded by the Oakland Co. Federal Aid Committee, to assist the City in the cost of reconstructing this major road. As a street with high traffic counts, combined with the need for general safety improvements, this segment of Maple Rd. qualified for a grant estimated at covering 80% of the cost of resurfacing this street.
- A grant for $249,700, awarded under the Highway Safety Improvement Program, covering 80% of the cost of reconstructing the Southfield Rd. at Maple Rd. intersection.

Together, these two grants will cover about $600,000 of the City's costs in reconstructing Maple Rd. As a result, the project will be bid and paid for through the Michigan Dept. of Transportation (MDOT). The final construction plans will have to be reviewed and approved through MDOT, meaning that MDOT standards will have to be followed as a part of the design process. The following is a summary of the project highlights, from west to east:

1. **Southfield Rd. Intersection** – The skewed angle in which Southfield Rd. meets Maple Rd. has created a high crash environment. It is also considered unfavorable for pedestrians attempting to cross Maple Rd. at this signal, as right turns from Southfield Rd. to eastbound Maple Rd. can be executed at higher than normal speeds. F&V studied crash histories for the City. They determined that moving the intersection to the west (as shown on the attached plans), therein making all turning movements to be executed at a 90° angle, would have a measurable impact on reducing crashes.

   Maple Rd. pavement is in marginal condition in this area, and the widths as constructed do not need to be changed. A concrete approach is planned for Southfield Rd., otherwise, Maple Rd. will be asphalt resurfaced. The traffic signal will have to be relocated as a part of this improvement. Being that the City is installing mast arm traffic signals at all of its intersections within the Central Business District, and since this intersection is at the outside edge of the district, the City Commission will be asked to consider whether a mast arm traffic signal design is appropriate here or not. MKSK and F&V have been asked to provide two pieces of information to assist in this decision:

   a. Estimated cost difference between the standard span wire signals (matching the current design) and installing mast arm signals. (The cost differential will not be covered by the federal grant.)
   b. Photo renderings of the appearance of the two signal designs, as viewed for northbound traffic, and the visual impact they will have on the Birmingham Museum located at this intersection.

2. **Southfield Rd. to Chester St. –** This block serves as a transition into the business district. The traffic lane design was modified in 2016 in conjunction with the three lane road conversion to the west, now providing sufficient storage for the large numbers of left turns being made in both directions. Since the pavement is in marginal condition, and no changes are proposed, milling and resurfacing of the asphalt surface is proposed here. Traffic volumes are inherently higher here as vehicles turn on and off of Chester St. to bypass the congestion in the center of downtown.

3. **Chester St. to West of Pierce St.** – Complete reconstruction, including water and sewer improvements, fiber optic, street lights, and landscaping (where possible) is proposed. A safety improvement encompassing aligned left turn lanes at Bates St. will likely be required as a part of the design, as will be explained by the consultant. While bumpouts and reduced crosswalk lengths are desired, the smaller road width on Maple Rd. will require that truck turning movements be considered in the design. Historically, left turns have been banned to Henrietta St. from 7 AM to 7 PM. That restriction is proposed to continue with this new design, in order to allow for a reduced road width in this area. MKSK will provide lane and sidewalk width options, as well as conceptual sidewalk design concepts for the Board to review.

4. **East of Old Woodward Ave. to Park St./Peabody St.** – Similar to paragraph 3 above, complete reconstruction is planned. During discussions on Phase 1, the City Commission clarified the desire for a mid-block pedestrian crossing on this block, to be located at the pedestrian via currently located just west of Café Via (300 E. Maple Rd.). The mid-block crossing has been included in this design. Also, in accordance with the

Downtown 2016 Master Plan, Park St. will be modified to operate as a two-way street, allowing for better circulation of vehicles in the northeast section of the CBD. Due to the short distance from Woodward Ave., the existing traffic signal function must remain as is. Southbound Park St. traffic will be required to turn right, after following a STOP sign. Some form of traffic island is recommended to reinforce this right turn movement. Large and small island options are presented for the Board's review.

5. **Park St. /Peabody St. to Woodward Ave. –** Similar to the section west of Chester St. above, this block acts as a transition out of the Central Business District. Traffic volumes are higher as vehicles turn on and off of Park St. and Peabody St. Given traffic levels, coupled with the short distance available for queues, no changes are suggested. Due to the age of the pavement, complete reconstruction is proposed. MKSK will provide suggested sidewalk conceptual design given the limitation of space.

Parking Options

A design concept that the MMTB will be asked to discuss is how to design the pavement markings. Options include:

A. Parking Space Size

1. 20 ft. long parking spaces adjacent to 8 ft. maneuvering boxes (similar to the current parallel parking concept provided on all downtown Birmingham streets)
2. 22 ft. long parking spaces, with no maneuvering boxes.

Note that the total count of parking that can be provided does not change based on which one is selected.

B. Lane Width

1. 11 ft. wide travel lanes with 8 ft. wide parking spaces.
2. 11 ft. wide travel lanes, a 1 ft. wide parking buffer, and 7 ft. wide parking spaces.

The positives and negatives of both options will be reviewed.

A suggested recommendation to the City Commission is provided below:

SUGGESTED RECOMMENDATION:

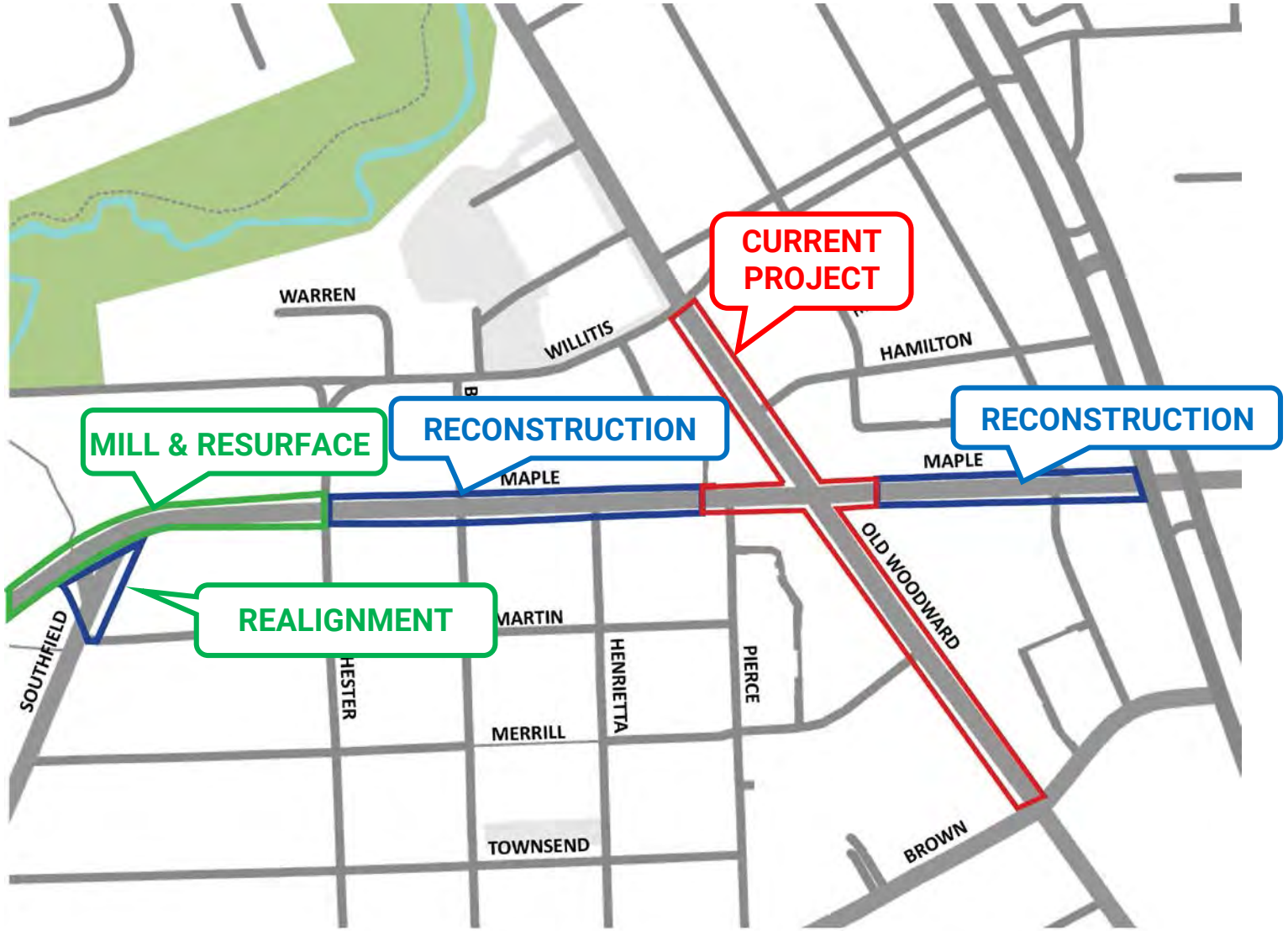
To recommend to the City Commission conceptual design plans for the reconstruction of Maple Rd. from Southfield Rd. to Woodward Ave., with the following design features:

1. Parking spaces sized at _____, and lane widths designed at _____.
2. Option ____ for the design of Maple Rd. between Chester St. and Henrietta St.
3. Option ____ for the design of the Park St. intersection.

Maple Road Project (and extension of current project)

- Full reconstruction Chester to Pierce and E of Old Woodward to Woodward
- Resurfacing from Southfield to Chester St.
- Realignment and signal upgrade at the Southfield intersection

Timeline: Bid Package by December



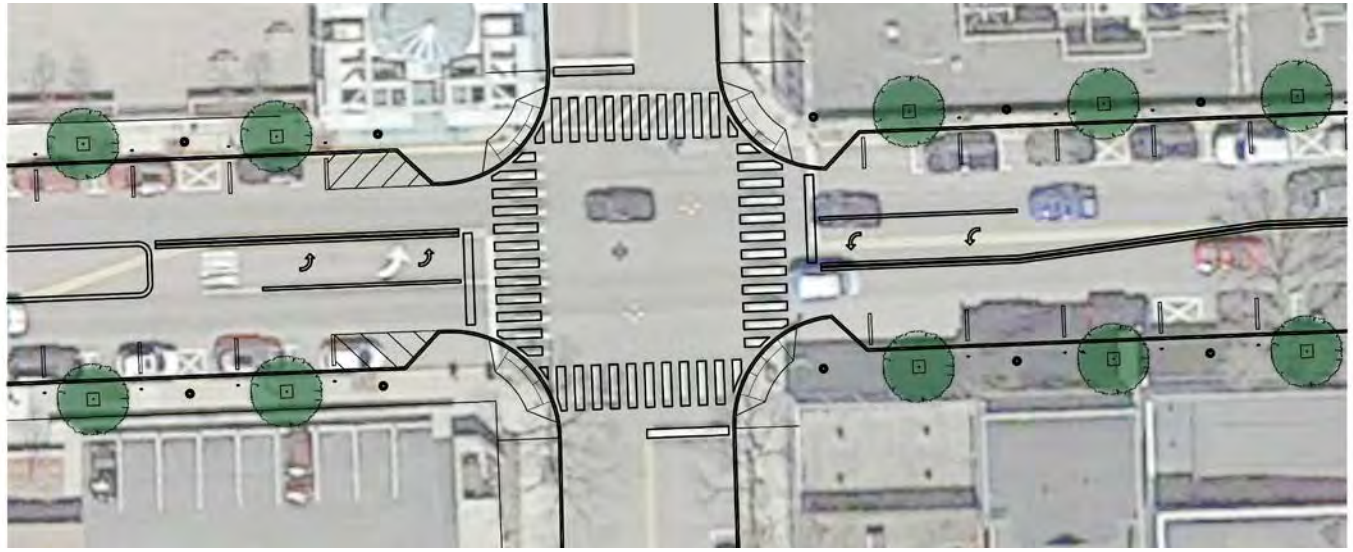
Project Goals: to the Degree Practical

- Consistency with the Phase 1 project
- Improve the pedestrian environment
- Ease pedestrian crossings
- Provide reasonable traffic operations
- Maximize the number of on-street parking spaces
- Consider maintenance costs
- Meet MDOT design standards (MDOT funded)

Recommended Street Tree Pattern: Parking Zones

In Parking Zones:

- Street trees line with center of every other parking space (top right)
- Street lights line the middle of other parking spaces (top right)
- Use of narrow, columnar trees instead of large canopy trees (bottom right)

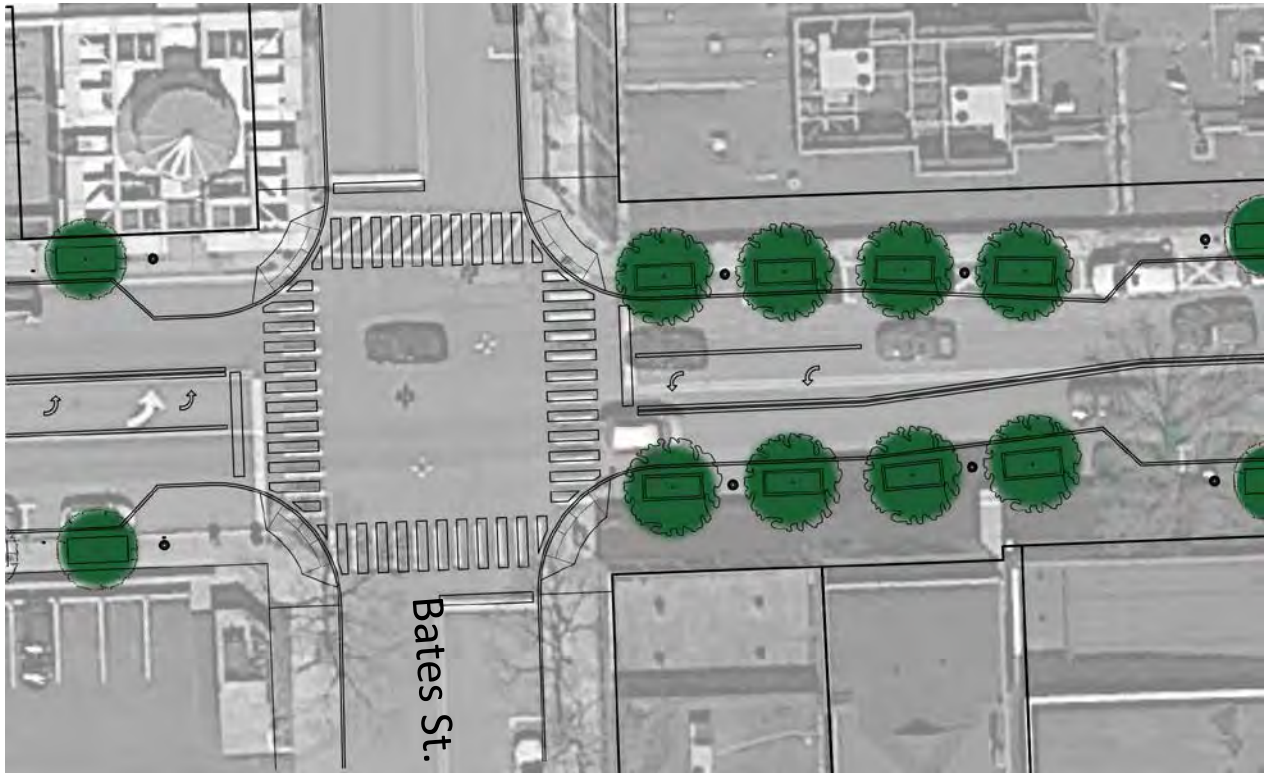


Trees with columnar branching habit (left) preferred over large canopy trees (right).

Recommended Street Tree Pattern: Widened Sidewalk Option

In Options where Parking Removed (Maple & Bates):

- Street trees reflect pattern of Woodward Ave
- Larger sidewalks allow for larger trees and planters



Phase 1 Study

Phase 1 Study

Maple Road: Existing Conditions

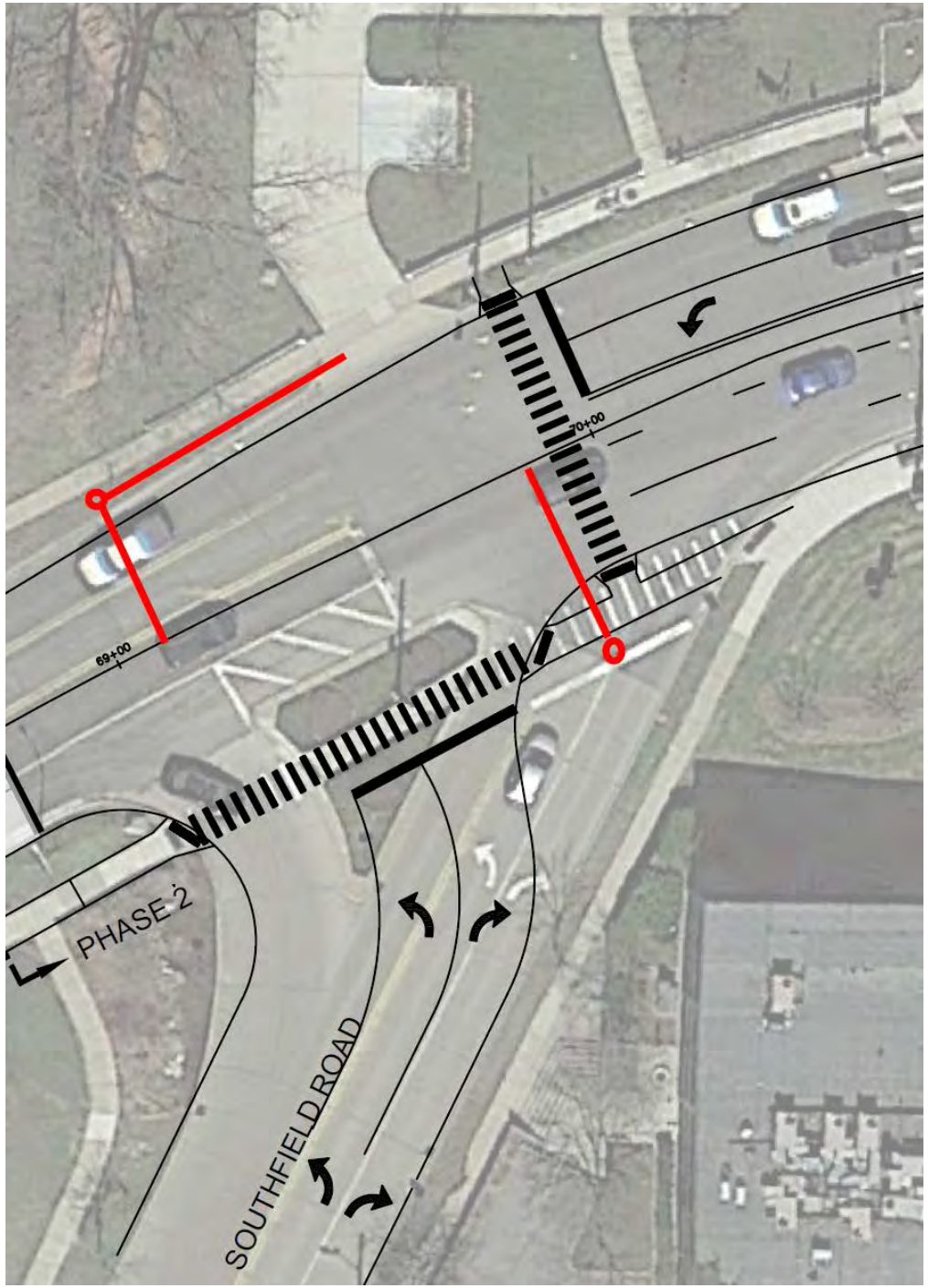
3 1/2' WALKABLE WEST (BETWEEN CHESTER AND BATES)

6 1/2' WALKABLE ZONE

Maple & Southfield Proposed Geometrics: New Signal Options

- Safety Funding for Intersection redesign
  - Includes eliminating the angled intersection approach
  - Signal modifications

- Signal Options:
  - Modify existing signal-included in safety grant
  - Upgrade to mast arms-Additional $80k-$120k

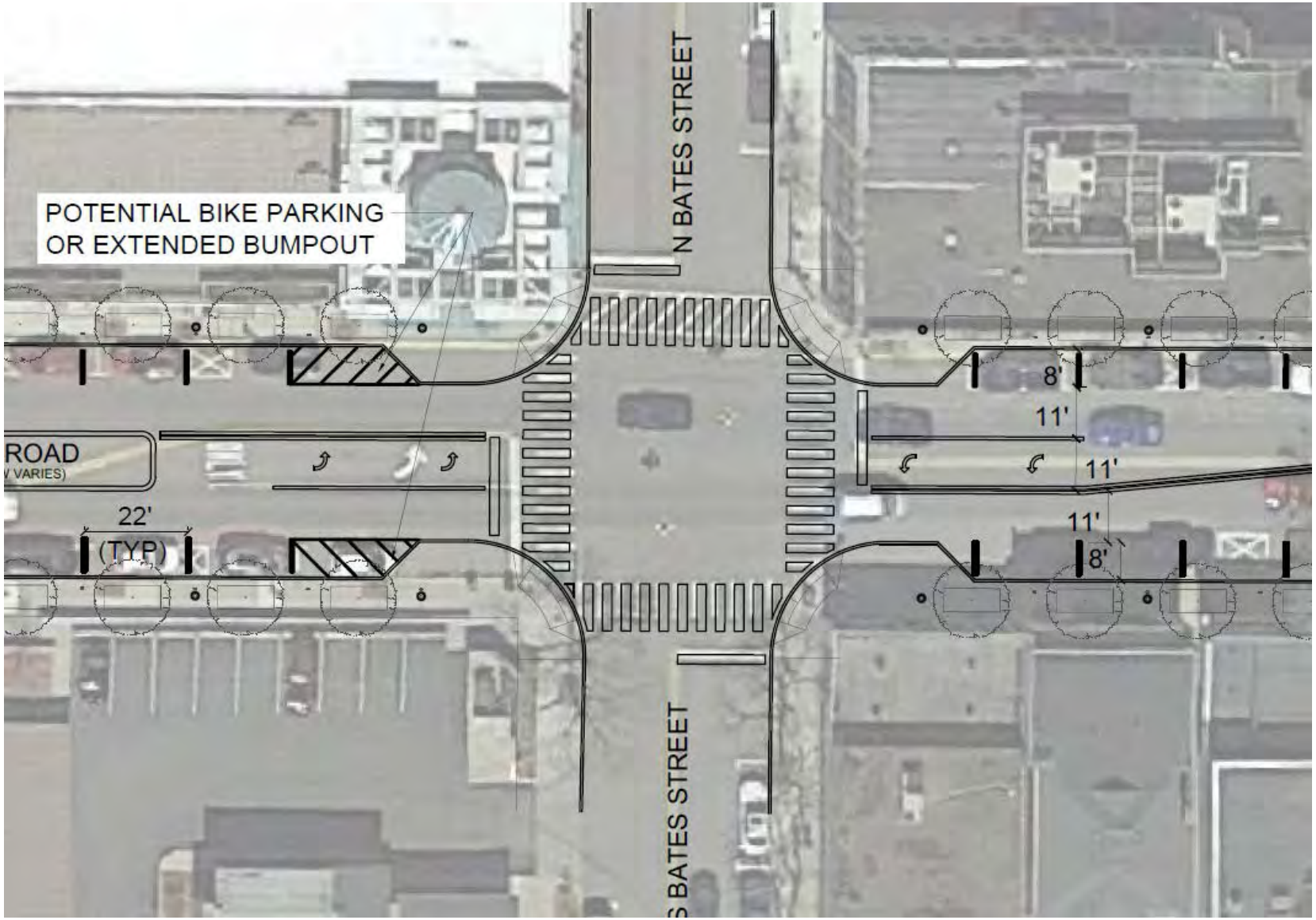


Maple & Bates
Existing Conditions

- Options
  - WB left-turns prohibited
  - Provide left-turn lane
- Left-turn Volumes
  - WB (33 AM/32PM) – No existing Left-turn lane
  - EB (6 AM/14 PM) – Existing Left-turn lane

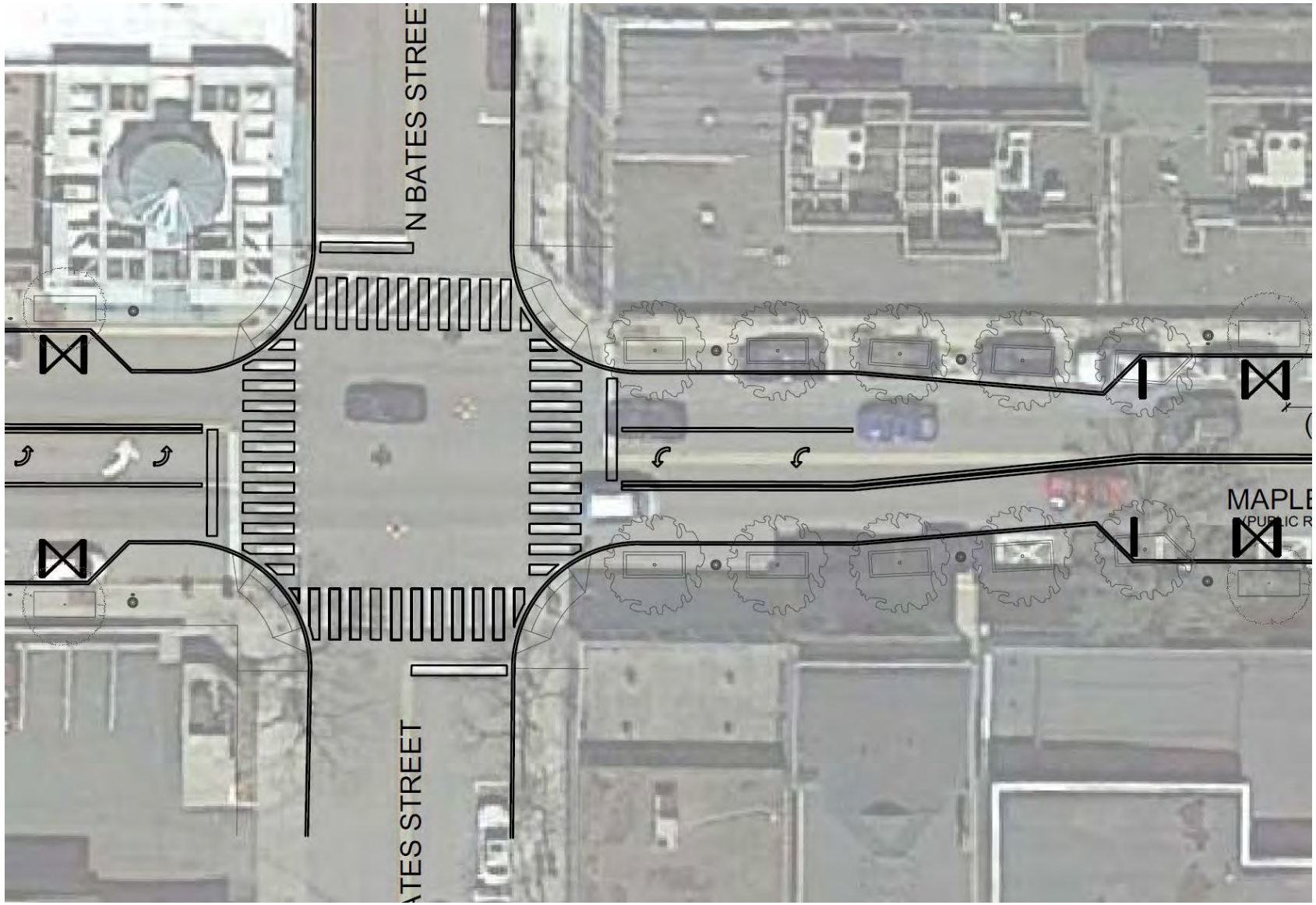
Maple & Bates
Option A:
Left-turn Lane with Narrower Sidewalk

- Left-turn Volumes
  - WB (33 AM/32PM) – No existing Left-turn lane
  - EB (6 AM/14 PM) – Existing Left-turn lane
- Improve sight distance
- Reduce rear-end crashes
- Reduce vehicle queues on Maple Road

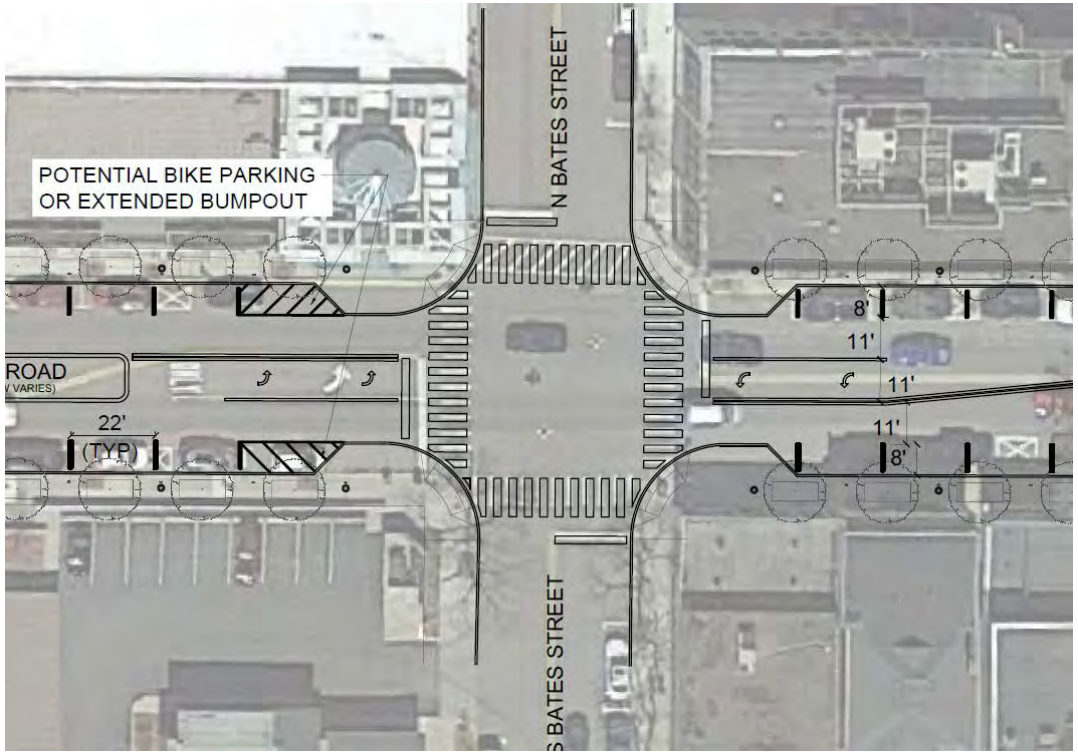


Maple & Bates
Option B:
Left-turn Lane with Parking Removed

- Left-turn Volumes
  - WB (33 AM/32PM) – No existing Left-turn lane
  - EB (6 AM/14 PM) – Existing Left-turn lane
- Improve sight distance
- Reduce rear-end crashes
- Reduce vehicle queues on Maple Road



Maple & Bates: Which is Preferred?



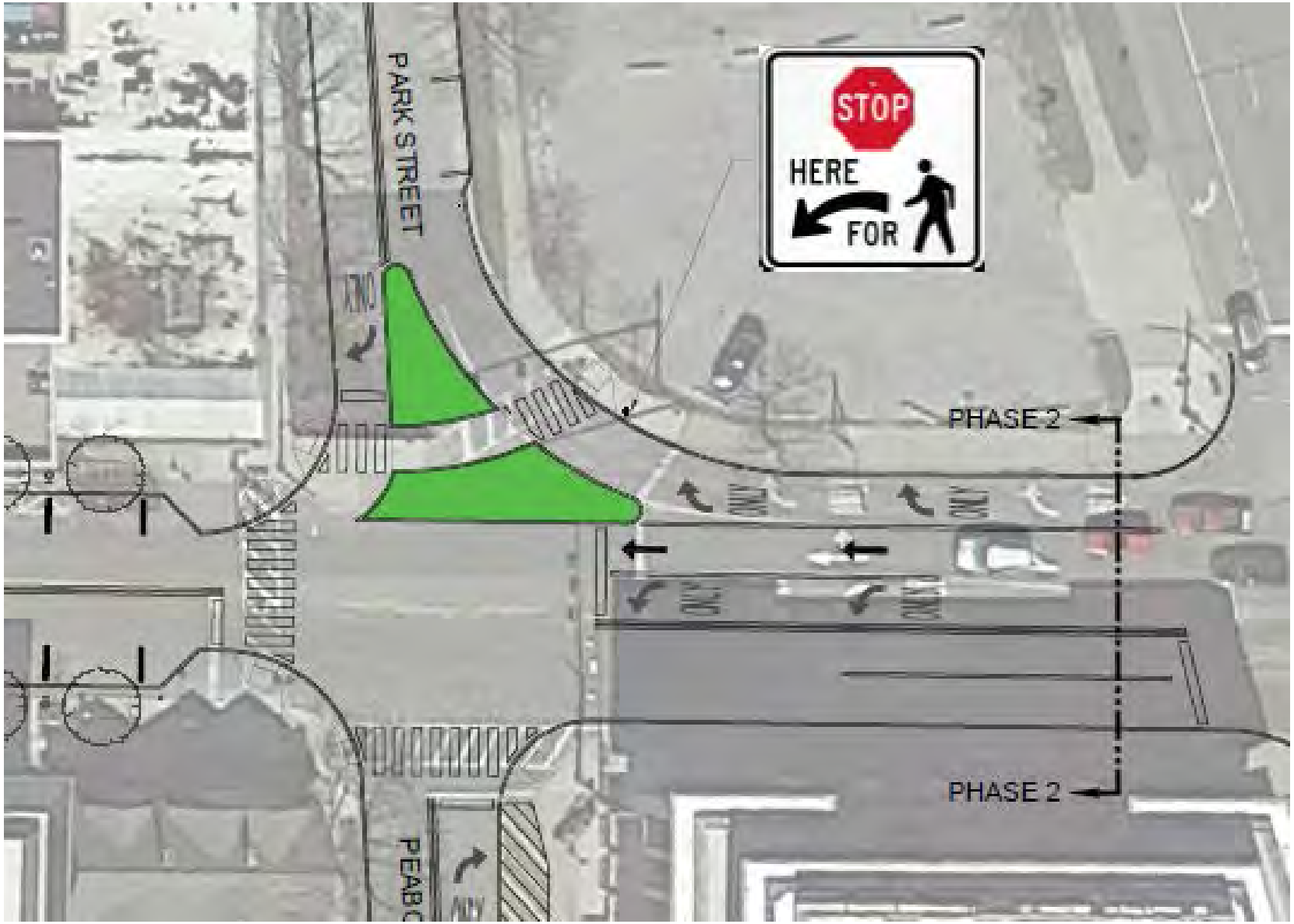
OR

Option A:
Left-turn Lane with Narrower Sidewalk

Option B:
Left-turn Lane with Parking Removed

Maple & Park
Option A:
Channelized Right-turn Lane

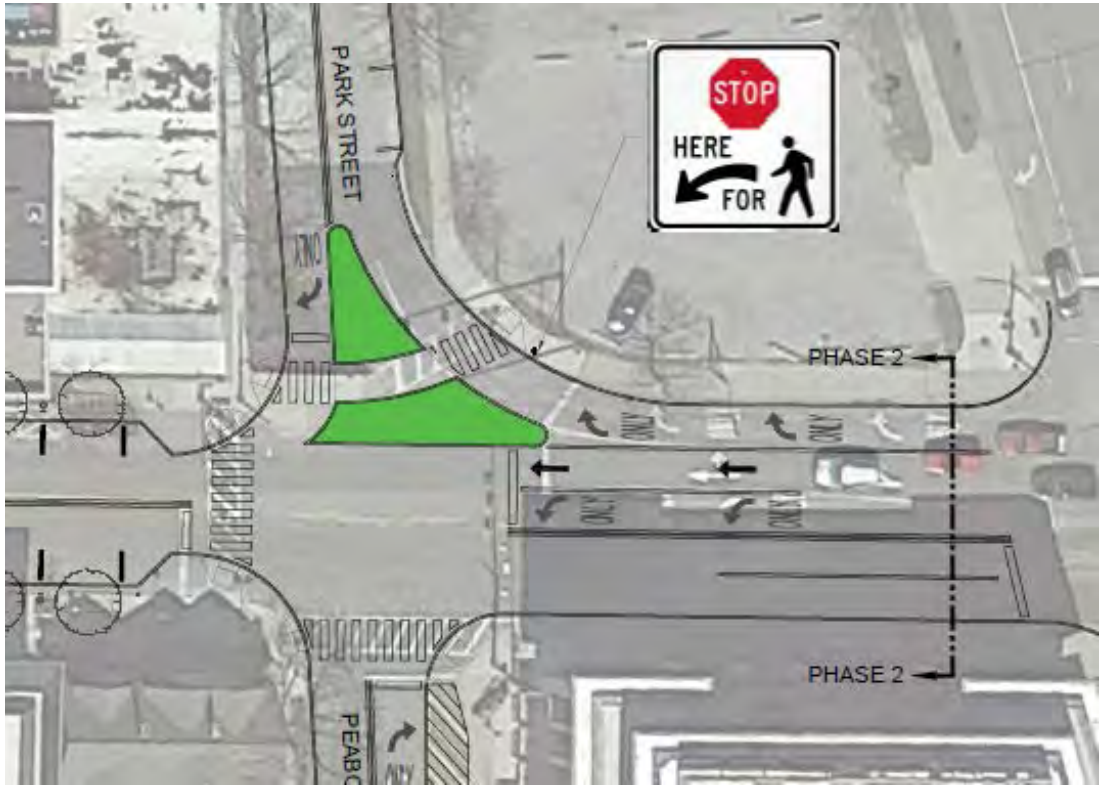
- Two stage pedestrian crossing
- Free-flow right-turns onto NB Park Street
- No queueing from right-turns onto Woodward



Maple & Park
Option B:
Reduced Traffic Island

- Typical pedestrian crossing
- Signal Control right-turns onto NB Park Street
- No queueing from right-turns onto Woodward

Maple & Park: Which is Preferred?



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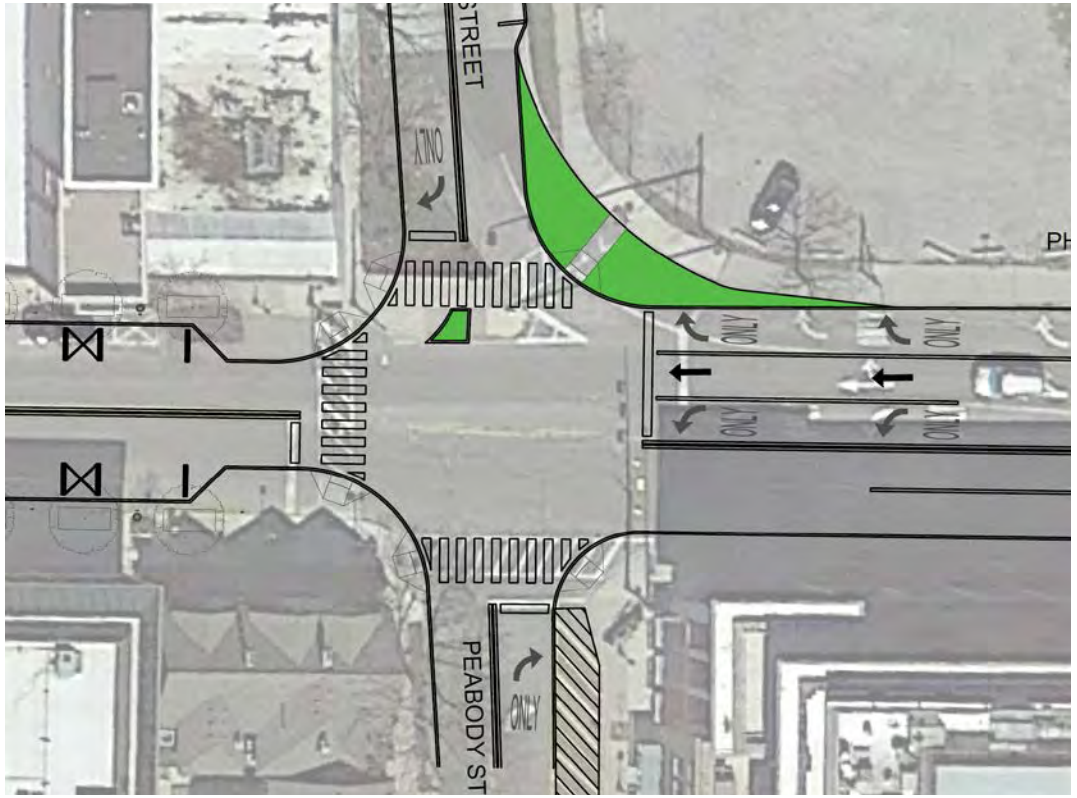
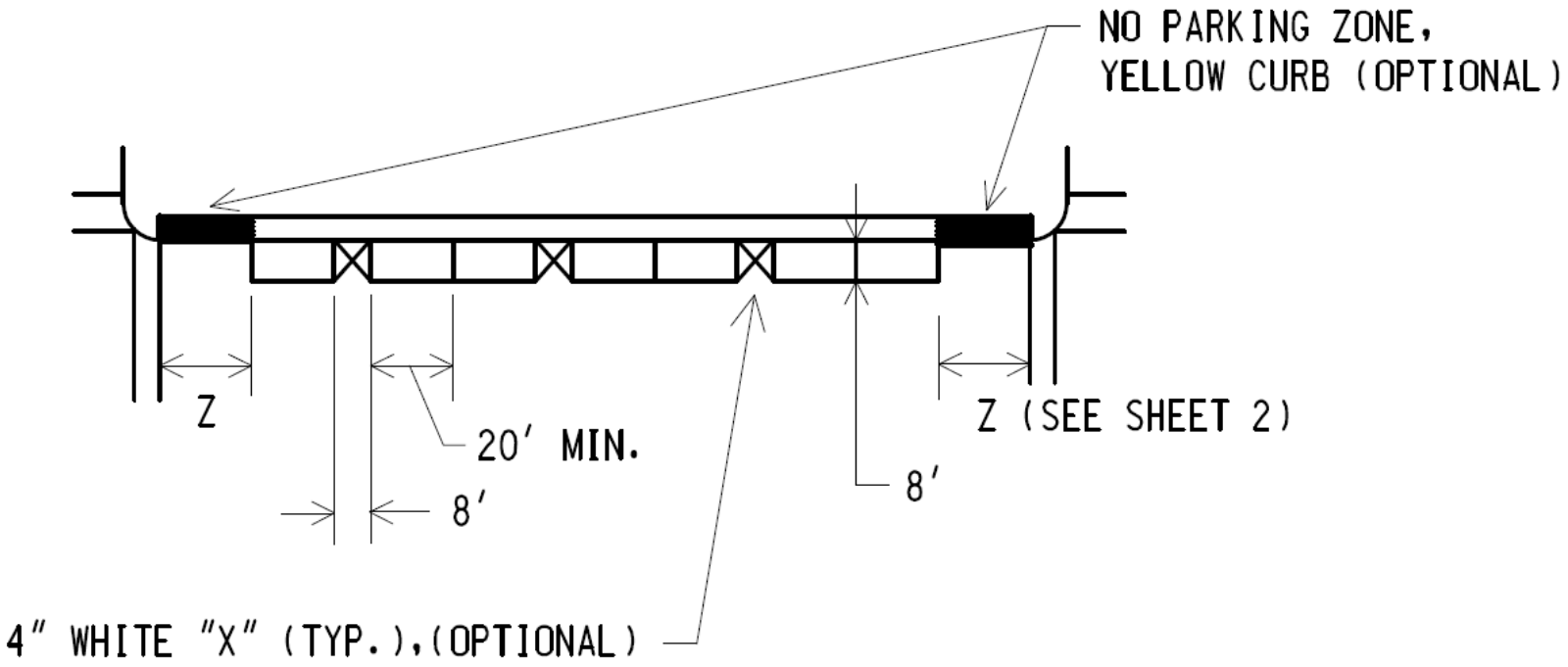


Option A:
Channelized Right-turn Lane

Option B:
Reduced Traffic Island

Parking Options
Option A-1:
20 ft Parking with 8 ft Boxes

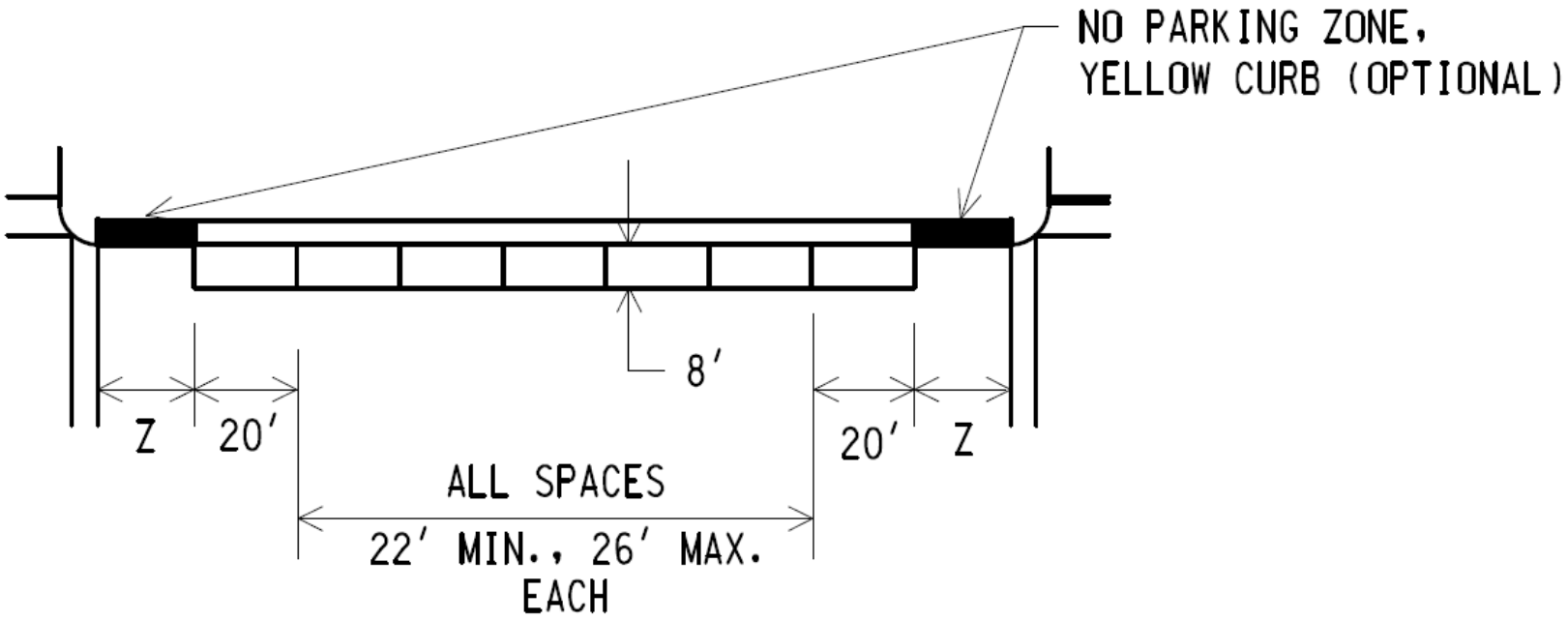
- No Extra space at end of Blocks



TYPE I

INTERSECTION TYPE	"Z"(FT)
NO TRAFFIC CONTROL NO CROSSWALK	15
NO TRAFFIC CONTROL WITH CROSSWALK	20
TRAFFIC CONTROL PRESENT	30
SEE SECTION 257.674 OF THE MICHIGAN VEHICLE CODE FOR MORE INFORMATION.	

Parking Options
Option A-2:
22 ft Parking

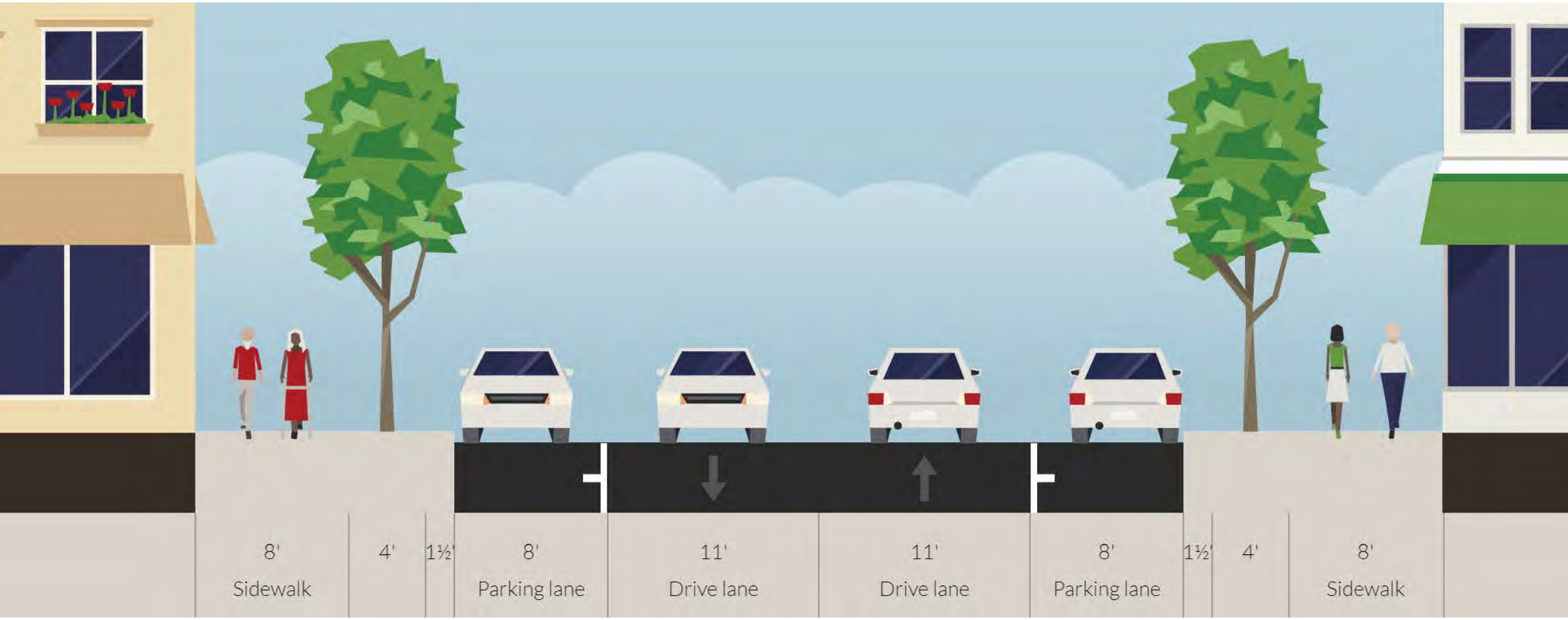


TYPE II

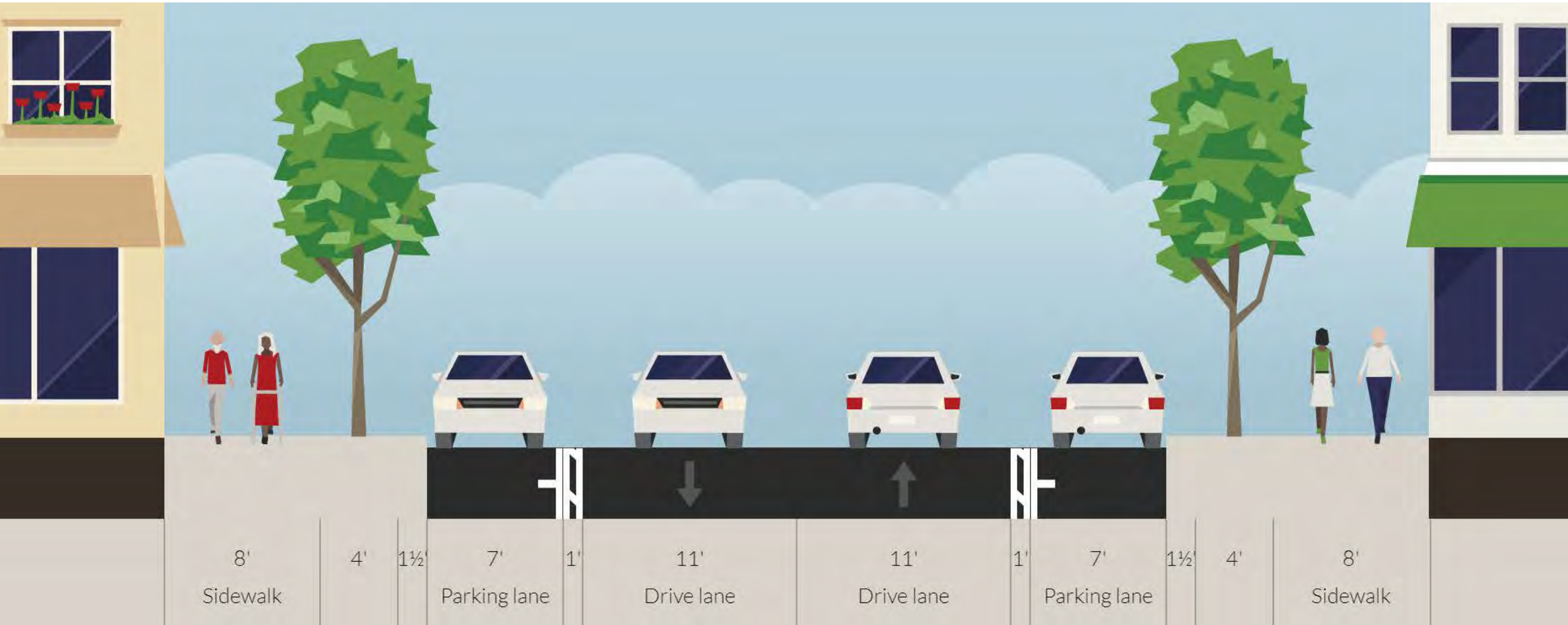
- Extra space at end of block
  - Bike Parking
  - Larger Bump-outs
  - Pedestrian Areas

INTERSECTION TYPE	"Z"(FT)
NO TRAFFIC CONTROL NO CROSSWALK	15
NO TRAFFIC CONTROL WITH CROSSWALK	20
TRAFFIC CONTROL PRESENT	30
SEE SECTION 257.674 OF THE MICHIGAN VEHICLE CODE FOR MORE INFORMATION.	

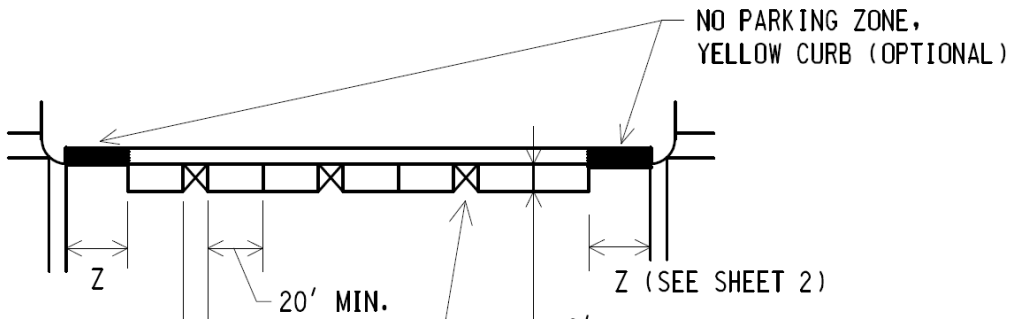
Parking Options
Option B-1:
11ft lanes with 8 ft wide Parking



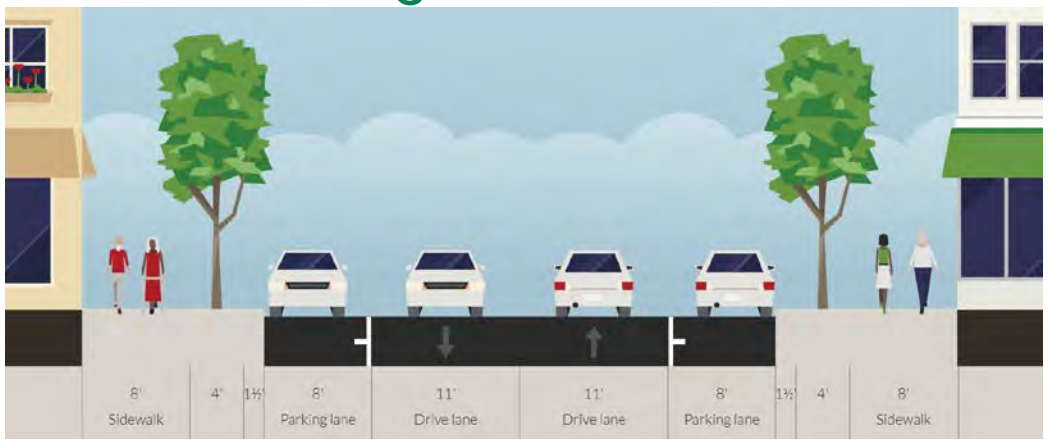
Parking Options
Option B-2:
11ft lanes with 7 ft wide
Parking with 1 ft buffer



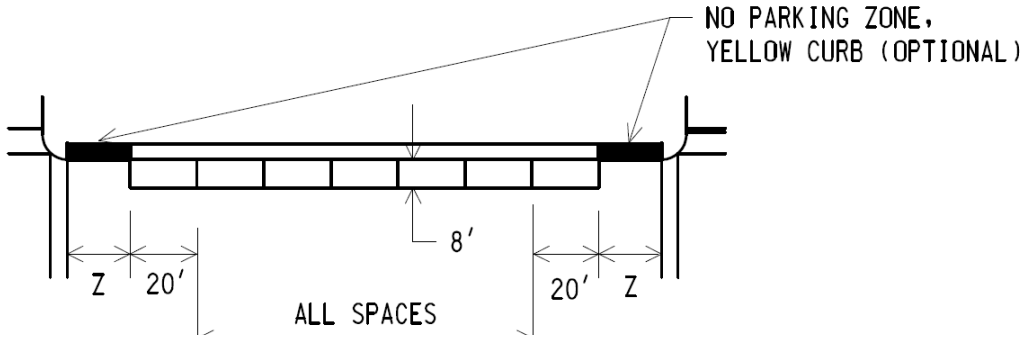
Parking Options: Which is Preferred?



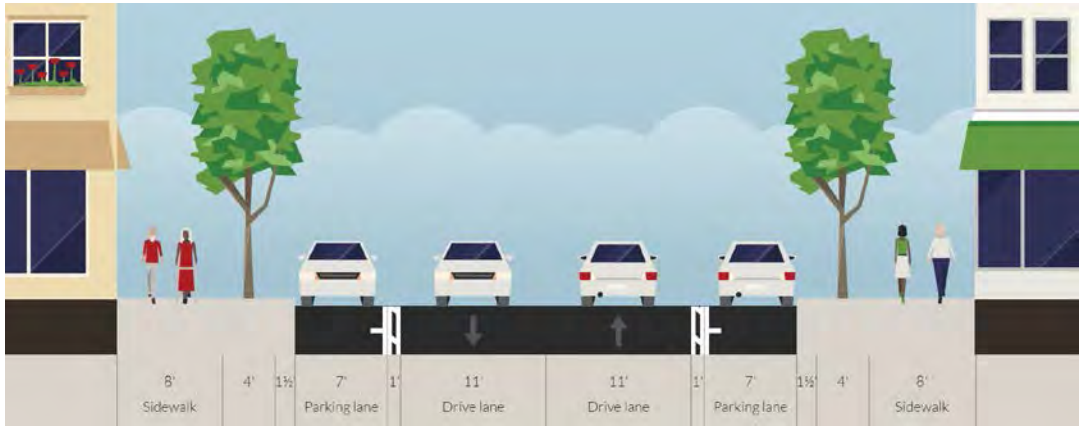
Option A-1:
20 ft Parking with 8 ft Boxes



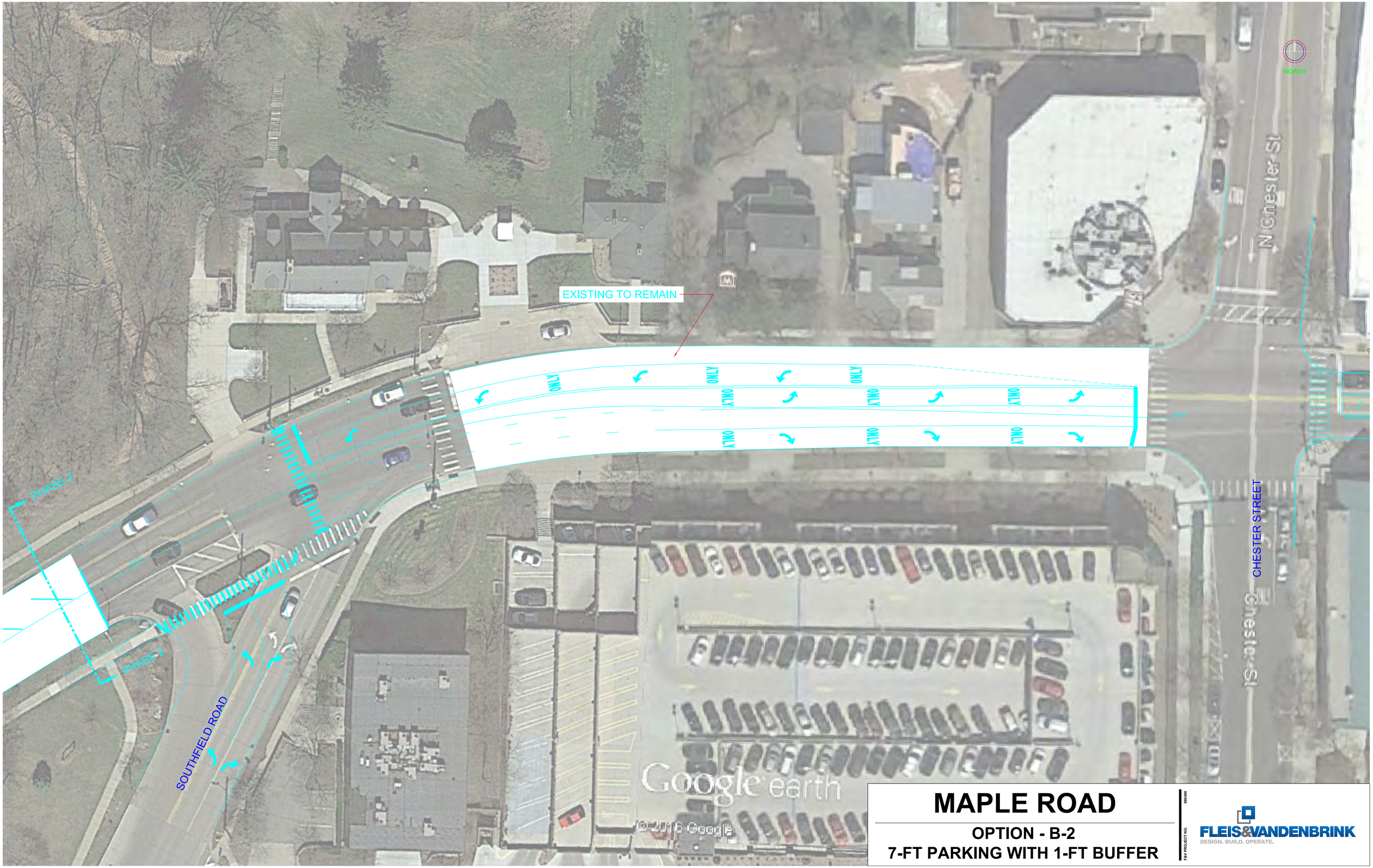
Option B-1:
11ft lanes with 8 ft wide Parking



Option A-2:
22 ft Parking



Option B-2:
11ft lanes with 7 ft wide Parking with 1 ft buffer

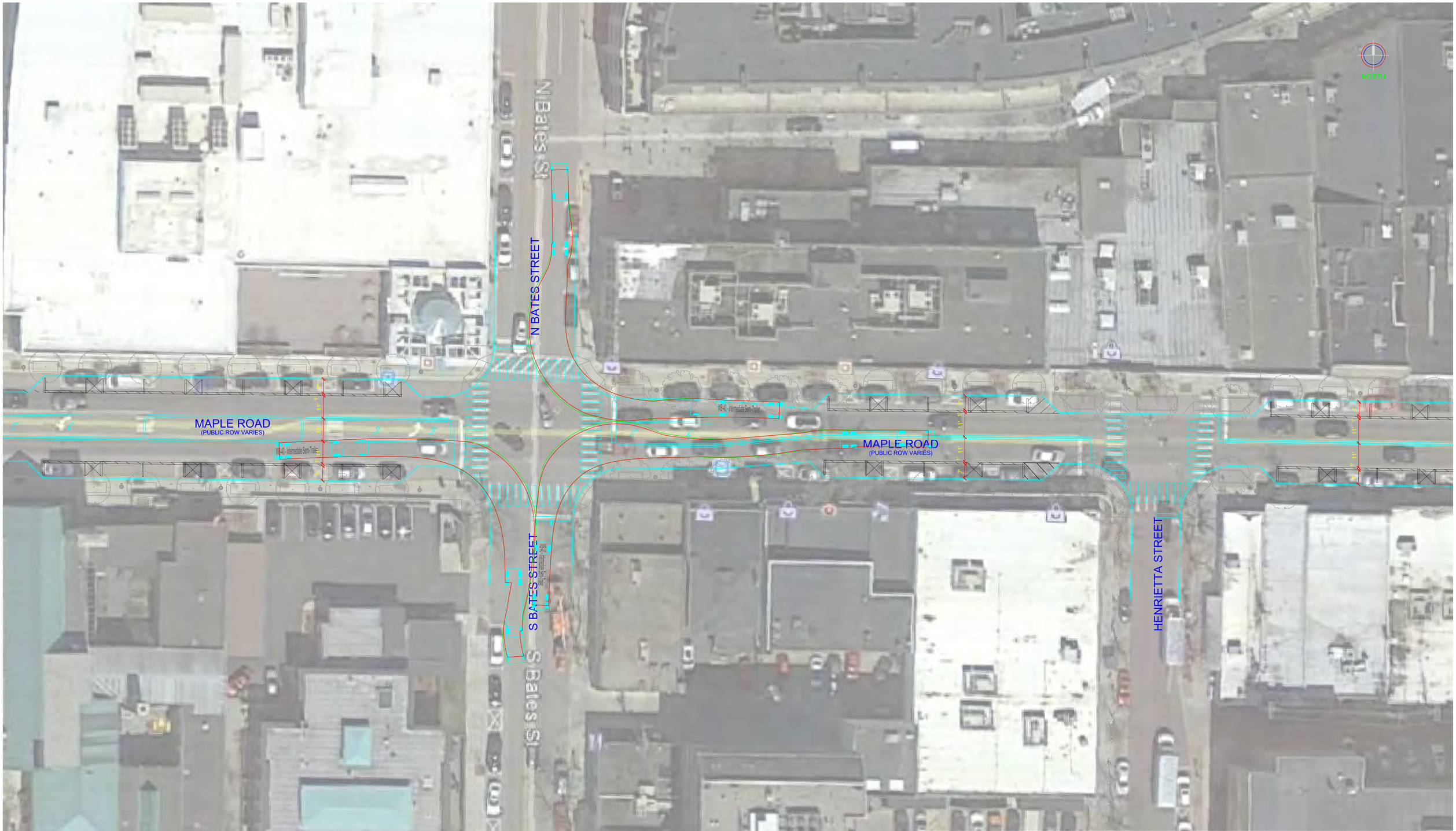


MAPLE ROAD

OPTION - B-2
7-FT PARKING WITH 1-FT BUFFER

F&V PROJECT NO. 000400

FLEIS&VANDENBRINK
DESIGN. BUILD. OPERATE.

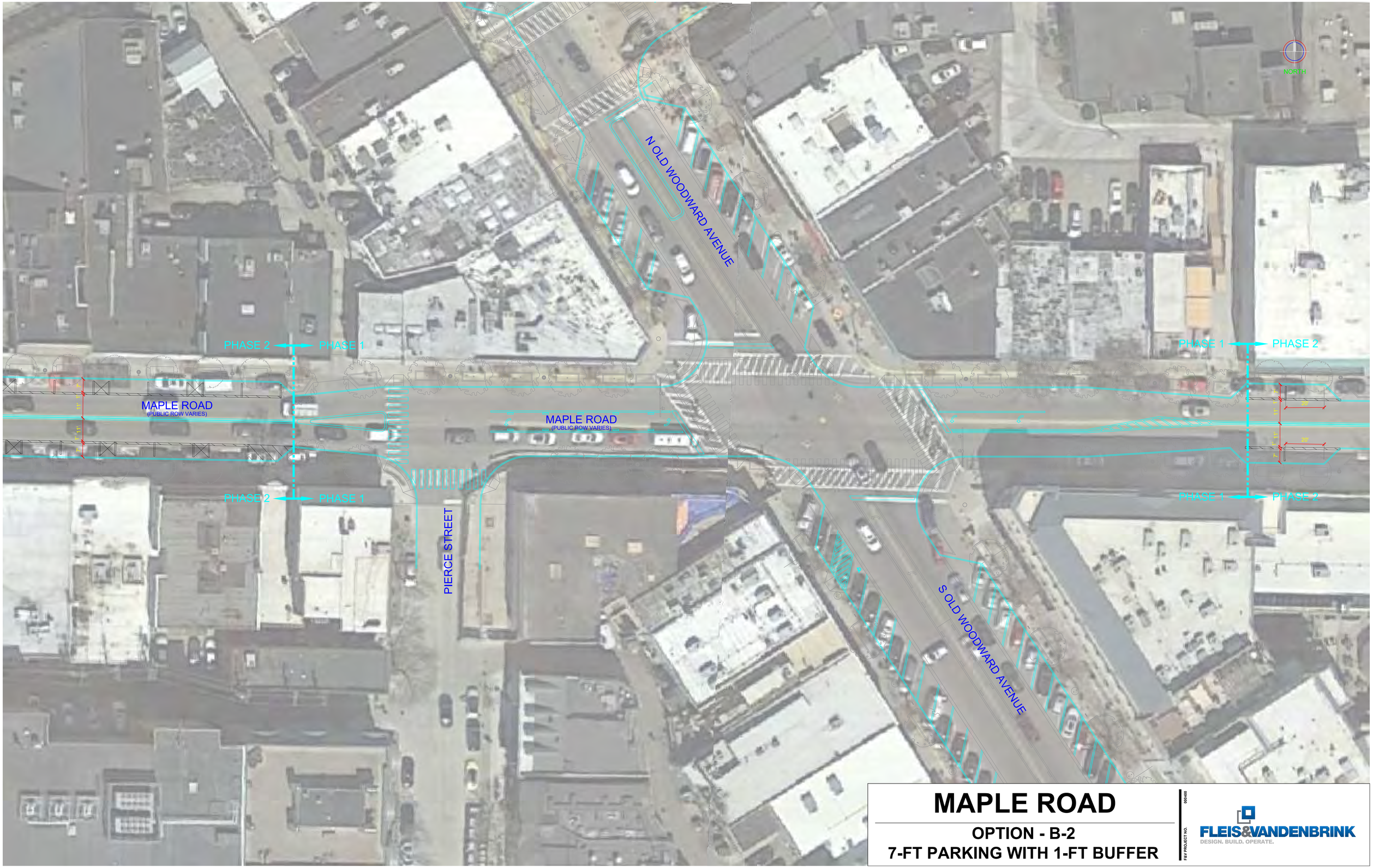


MAPLE ROAD

OPTION - B-2
7-FT PARKING WITH 1-FT BUFFER

F&V PROJECT NO. 000400

FLEIS&VANDENBRINK
DESIGN. BUILD. OPERATE.



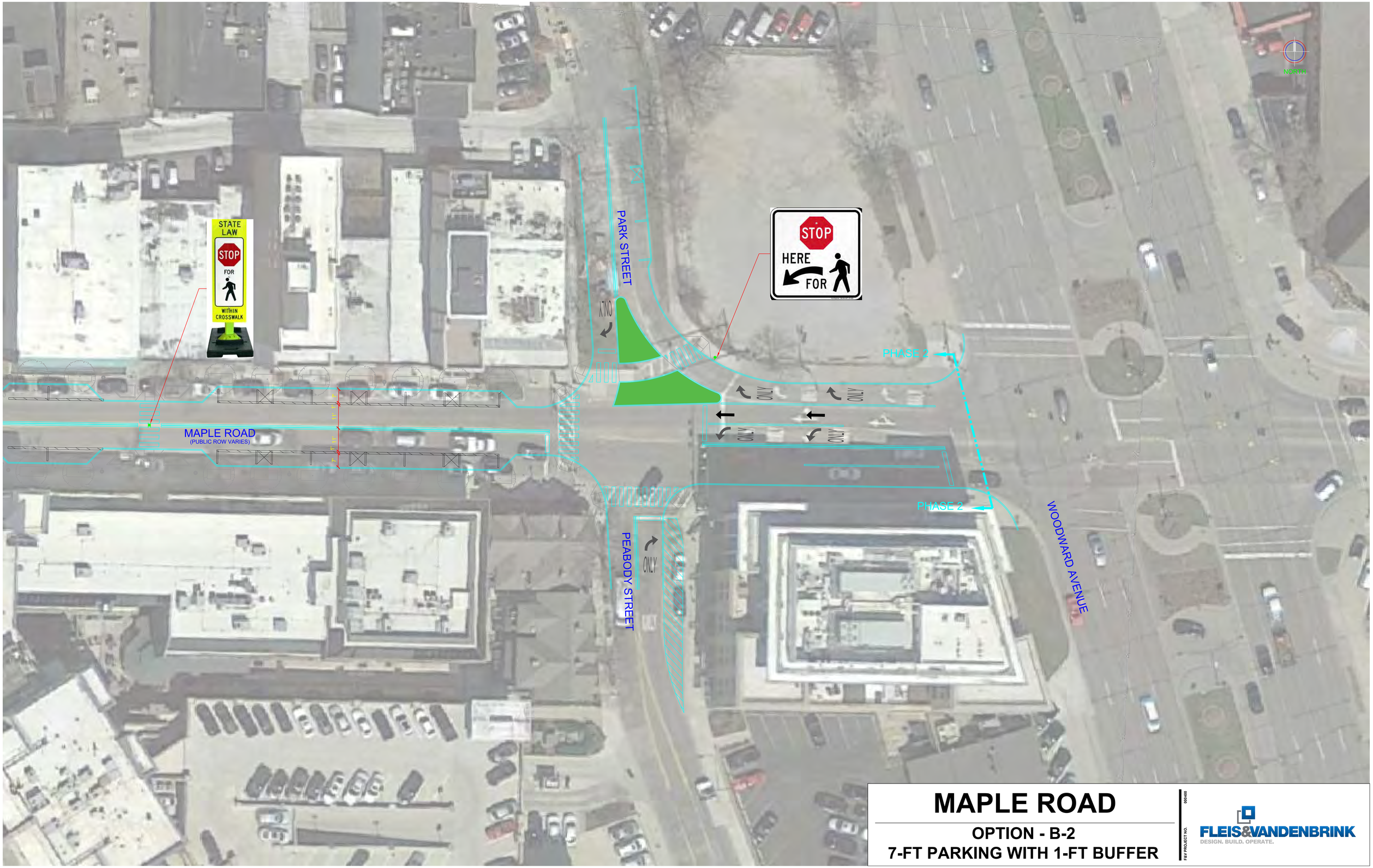
MAPLE ROAD

OPTION - B-2

7-FT PARKING WITH 1-FT BUFFER

F&V PROJECT NO. 000400

FLEIS&VANDENBRINK
DESIGN. BUILD. OPERATE.



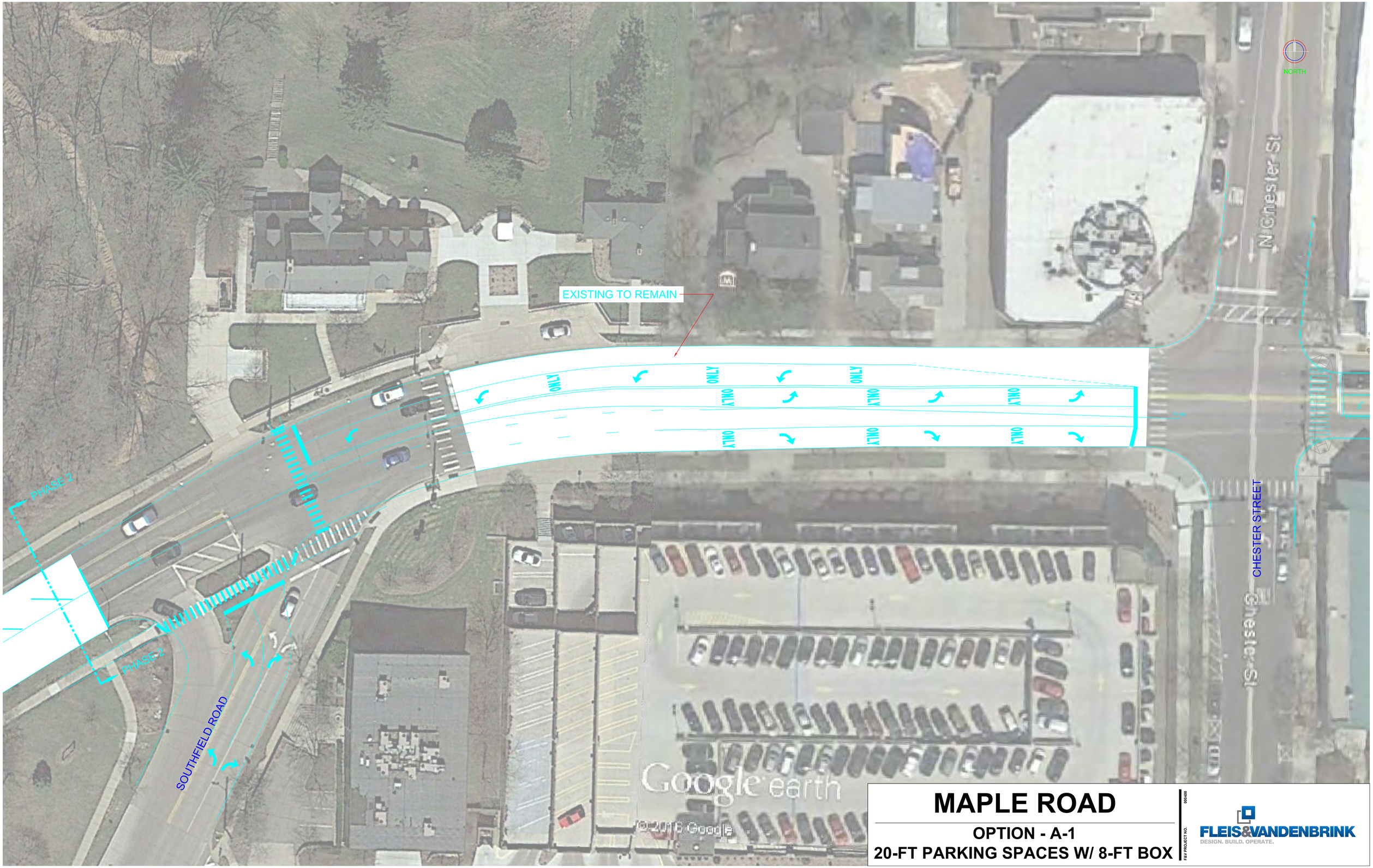
MAPLE ROAD

OPTION - B-2
7-FT PARKING WITH 1-FT BUFFER

F&V PROJECT NO. 000400

FLEIS&VANDENBRINK
DESIGN. BUILD. OPERATE.

CITY OF BIRMINGHAM
OAKLAND COUNTY, MICHIGAN
MAPLE ROAD - SOUTHFIELD TO WOODWARD
OPTION A - STREETSCAPE 2018
CONCEPT ONLY
MAPLE ROAD
SOUTHFIELD ROAD
WOODWARD AVENUE
PEABODY STREET
HENRY STREET
PEACH STREET
LINCOLN STREET
Google earth

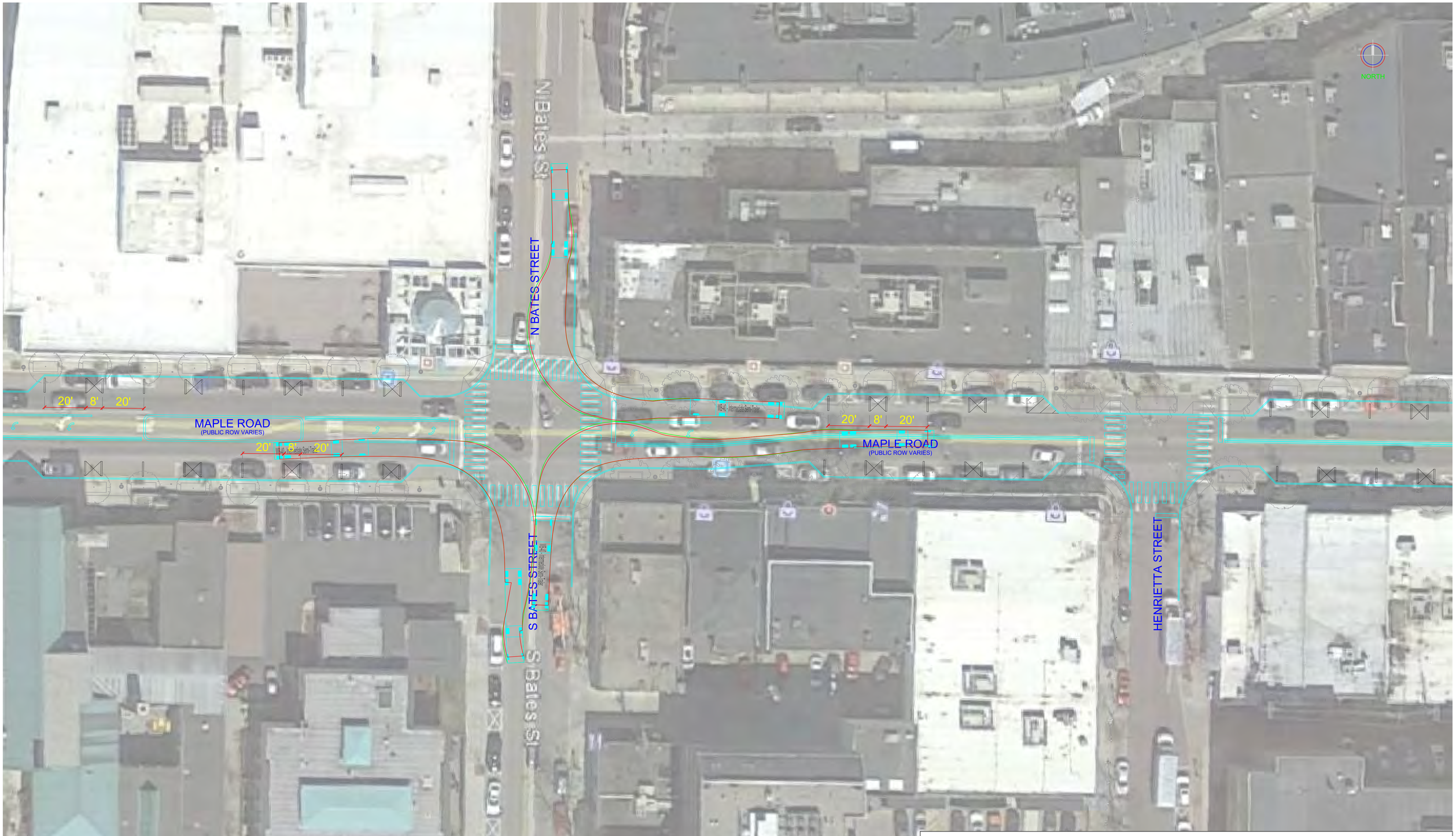


MAPLE ROAD

OPTION - A-1
20-FT PARKING SPACES W/ 8-FT BOX

F&V PROJECT NO. 000400

FLEIS&VANDENBRINK
DESIGN. BUILD. OPERATE.



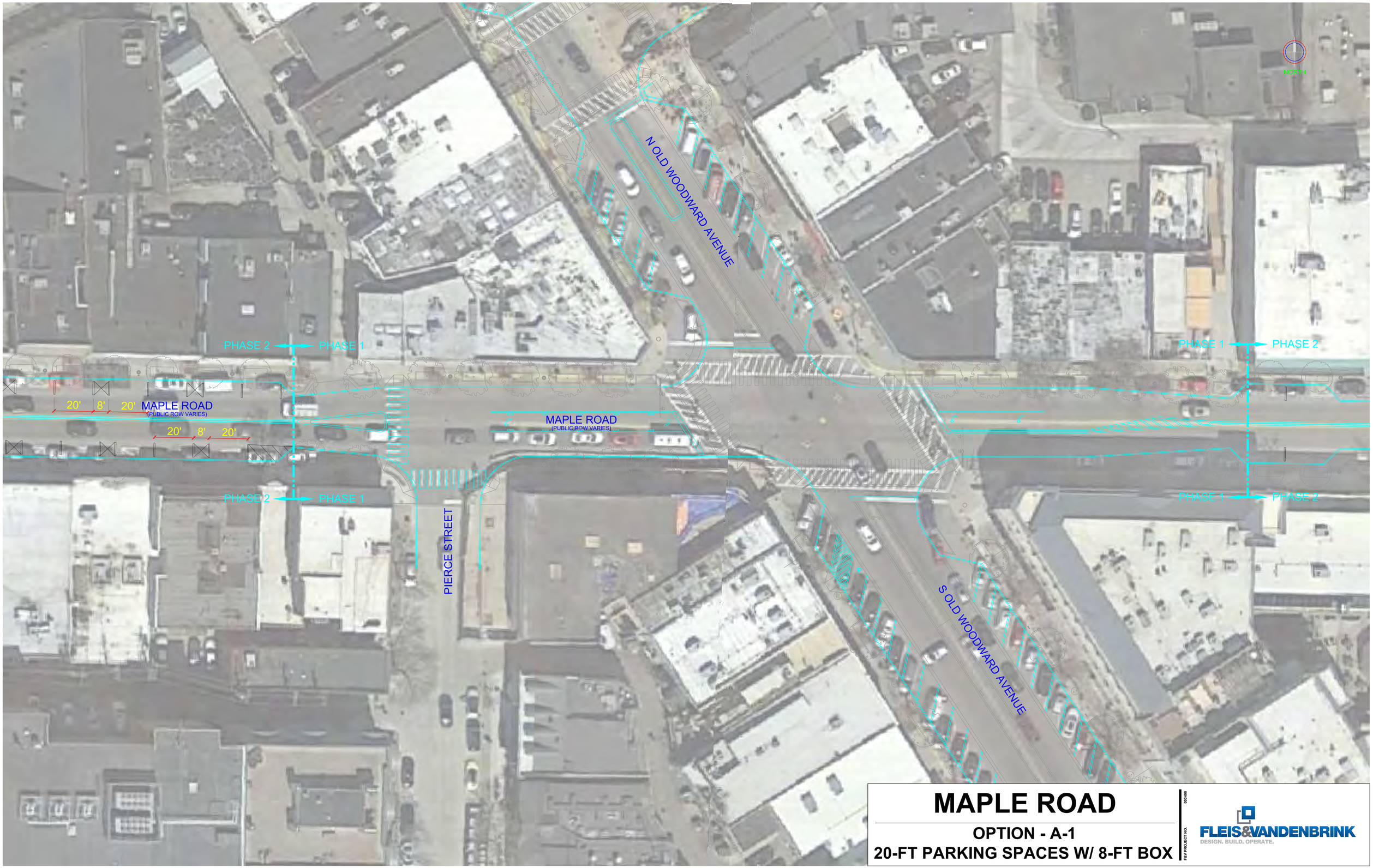
MAPLE ROAD

OPTION - A-1

20-FT PARKING SPACES W/ 8-FT BOX

F&V PROJECT NO. 000400

FLEIS&VANDENBRINK
DESIGN. BUILD. OPERATE.



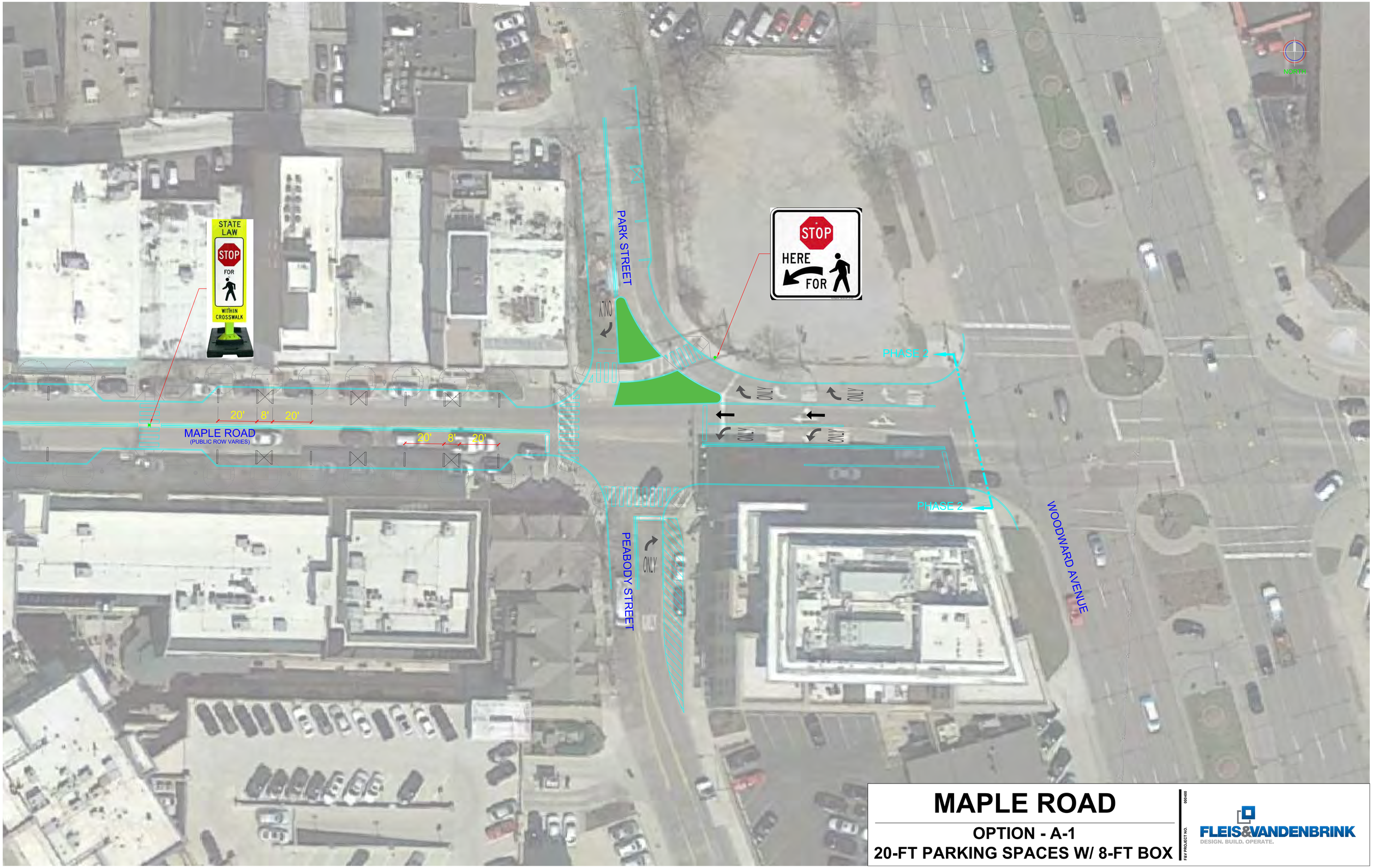
MAPLE ROAD

OPTION - A-1

20-FT PARKING SPACES W/ 8-FT BOX

F&V PROJECT NO. 000400

FLEIS&VANDENBRINK
DESIGN. BUILD. OPERATE.



MAPLE ROAD

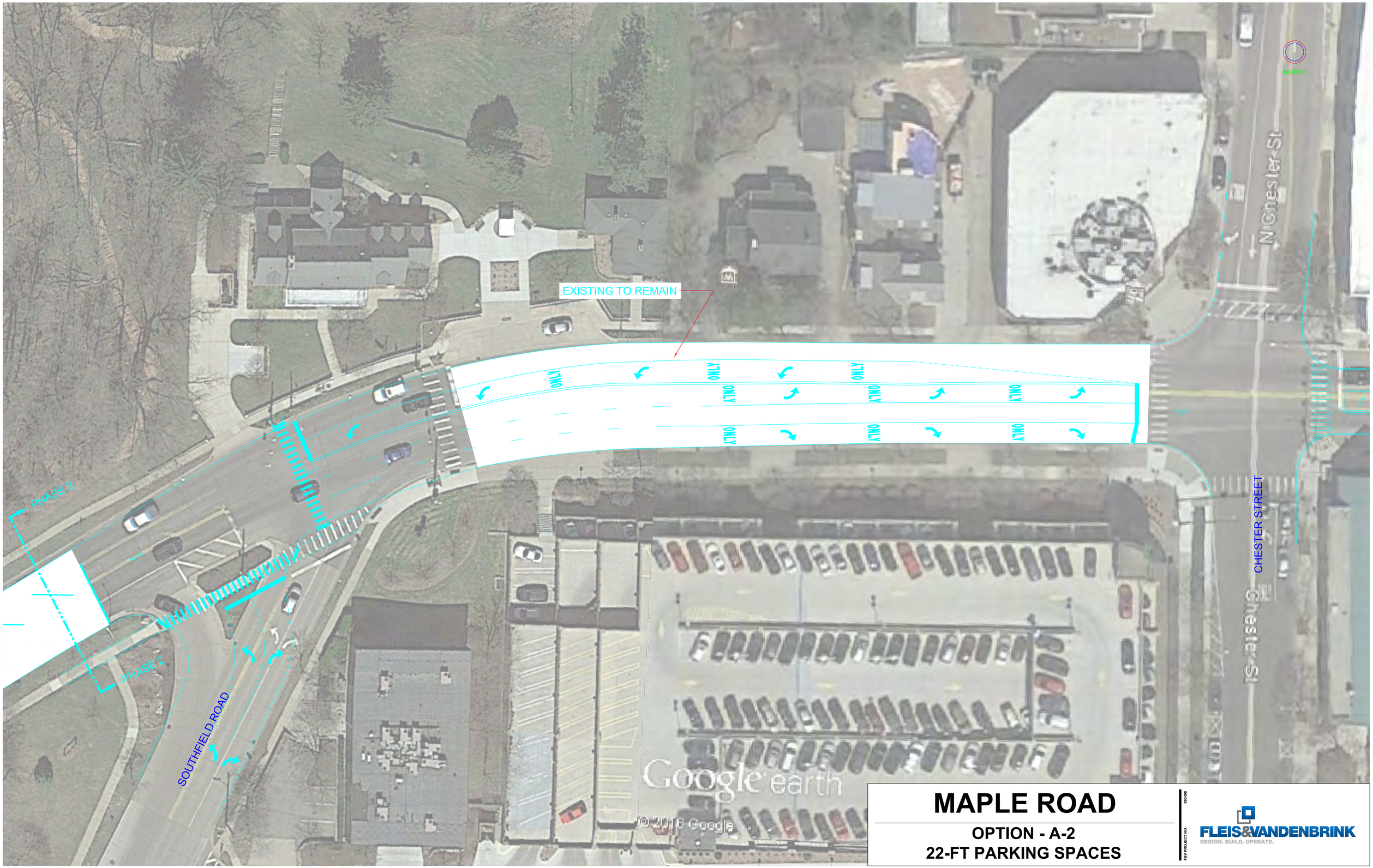
OPTION - A-1

20-FT PARKING SPACES W/ 8-FT BOX

F&V PROJECT NO. 000400

FLEIS&VANDENBRINK
DESIGN. BUILD. OPERATE.

CITY OF BIRMINGHAM
OAKLAND COUNTY, MICHIGAN
MAPLE ROAD - SOUTHFIELD TO WOODWARD
OPTION A - STREETSCAPE 2018
CONCEPT ONLY
MAPLE ROAD
SOUTHFIELD ROAD
WOODWARD AVENUE
HENRY STREET
PEABODY STREET
LINCOLN STREET
Google earth

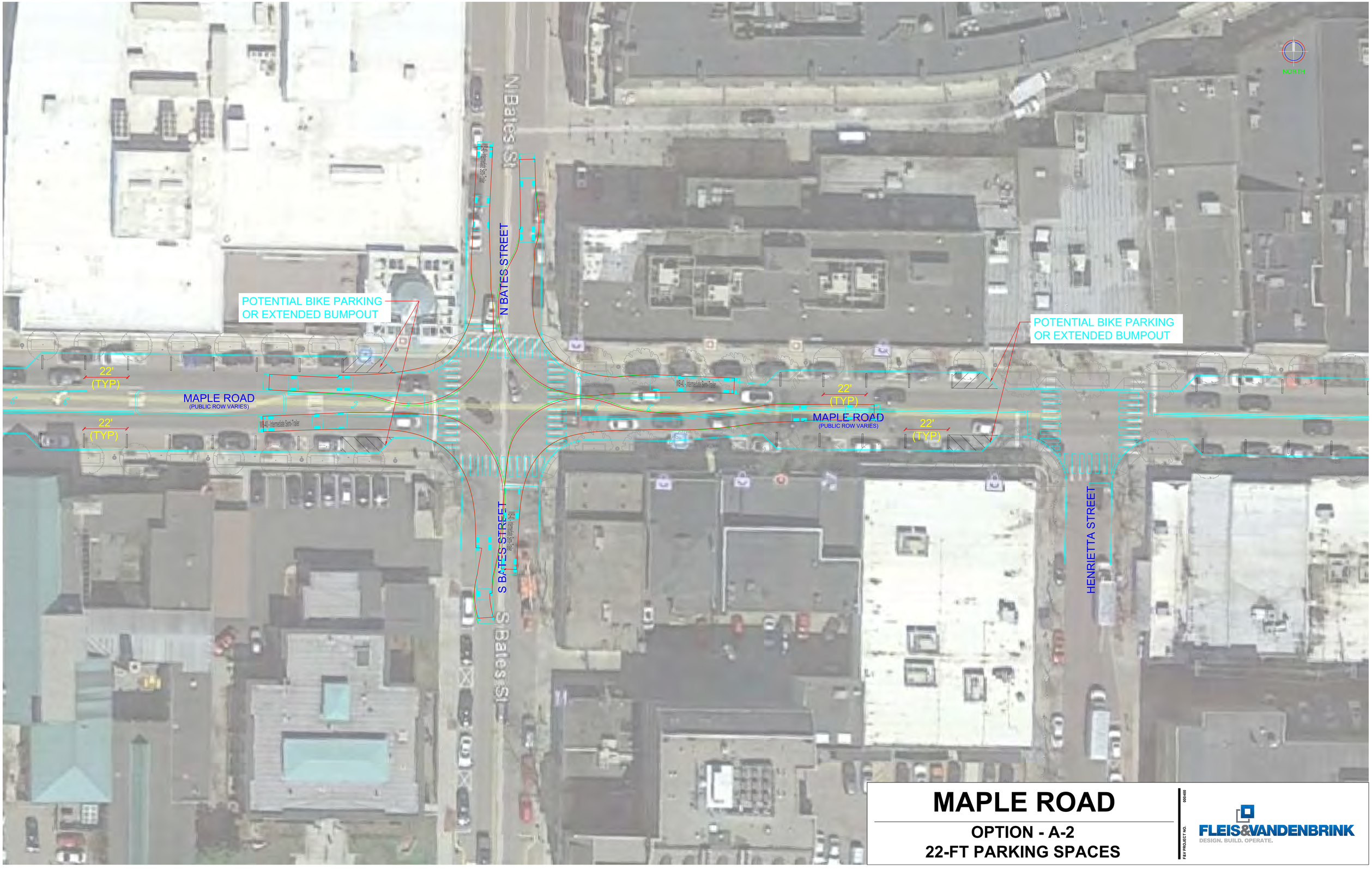


MAPLE ROAD

OPTION - A-2
22-FT PARKING SPACES

F&V PROJECT NO. 000400

FLEIS&VANDENBRINK
DESIGN. BUILD. OPERATE.

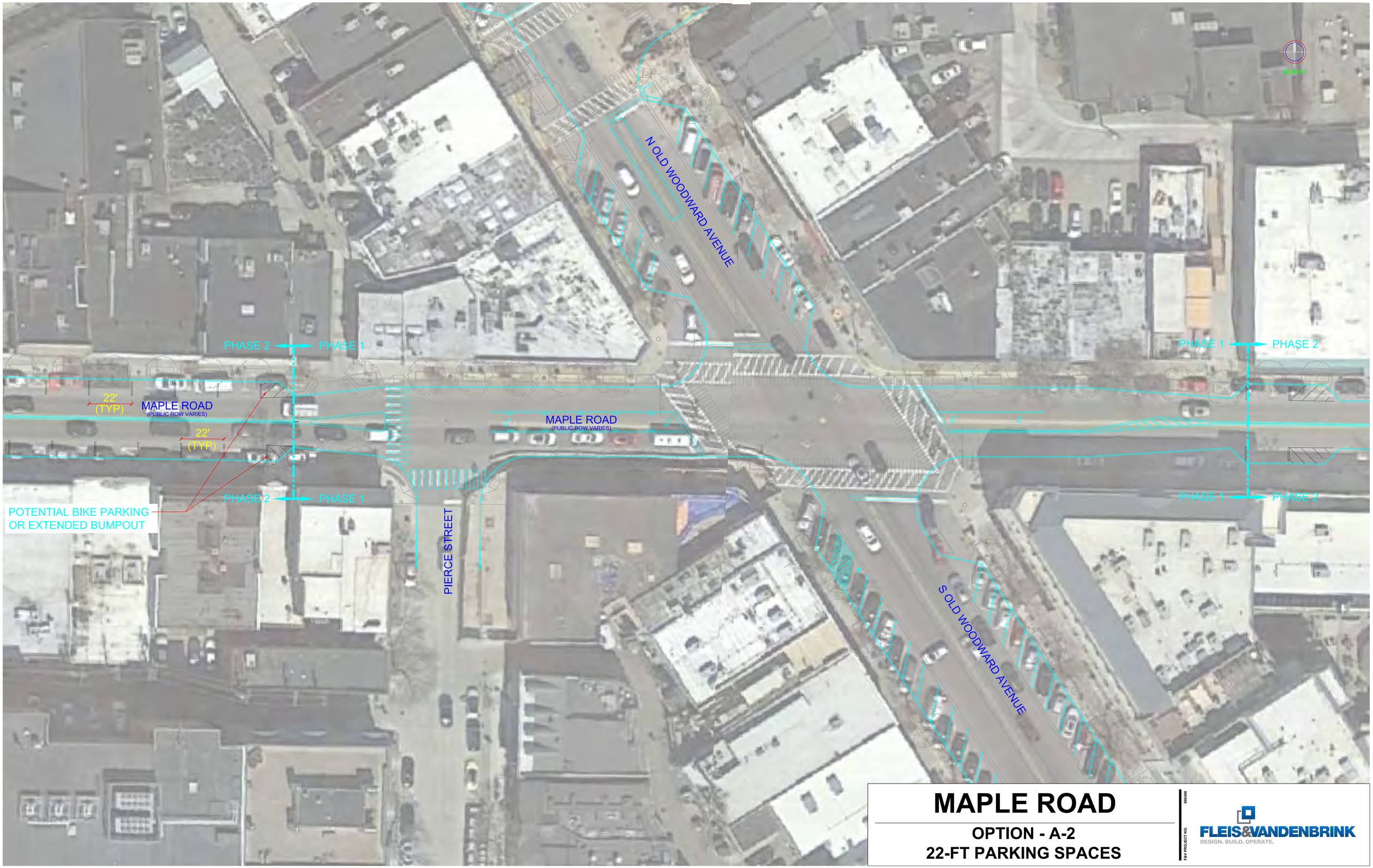


MAPLE ROAD

OPTION - A-2
22-FT PARKING SPACES

F&V PROJECT NO. 008400

FLEIS&VANDENBRINK
DESIGN. BUILD. OPERATE.

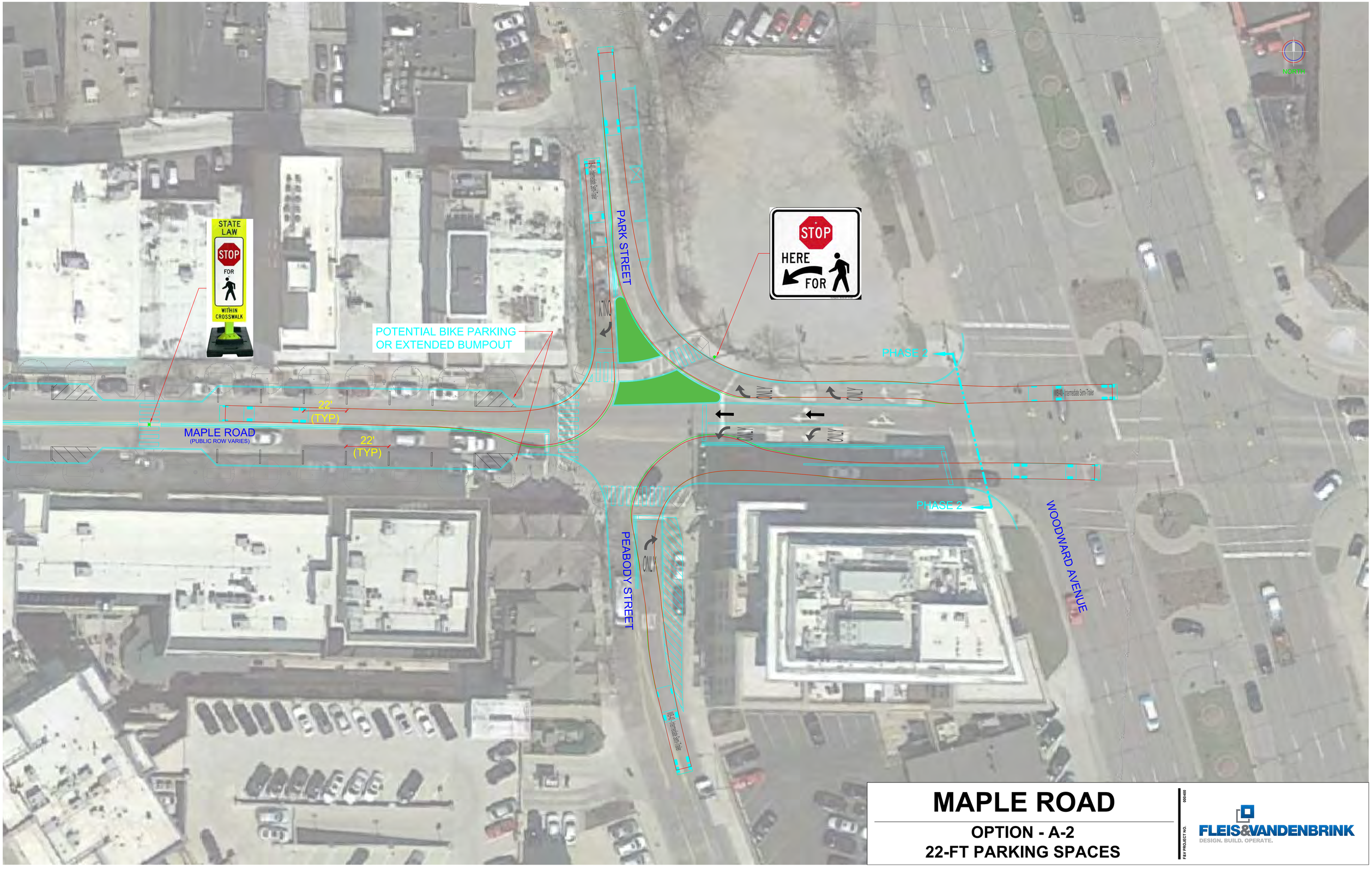


MAPLE ROAD

OPTION - A-2
22-FT PARKING SPACES

F&V PROJECT NO. 000400

FLEIS&VANDENBRINK
DESIGN. BUILD. OPERATE.



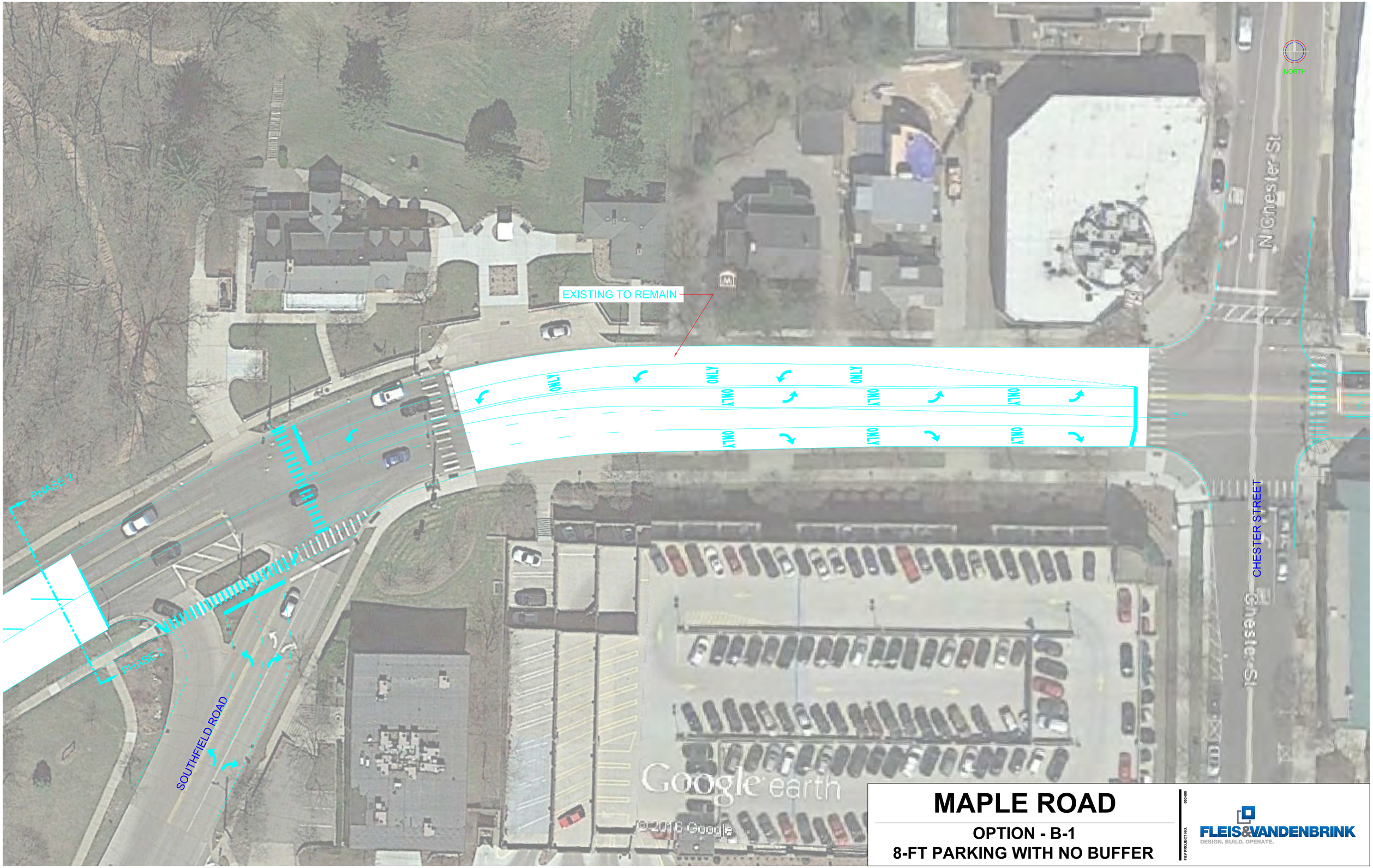
MAPLE ROAD

OPTION - A-2
22-FT PARKING SPACES

F&V PROJECT NO. 008400

FLEIS&VANDENBRINK
DESIGN. BUILD. OPERATE.

CITY OF BIRMINGHAM
OAKLAND COUNTY, MICHIGAN
MAPLE ROAD - SOUTHFIELD TO WOODWARD
OPTION A - STREETSCAPE 2018
CONCEPT ONLY
MAPLE ROAD
SOUTHFIELD ROAD
WOODWARD AVENUE
HENRY STREET
PEABODY STREET
LINCOLN STREET
Google earth

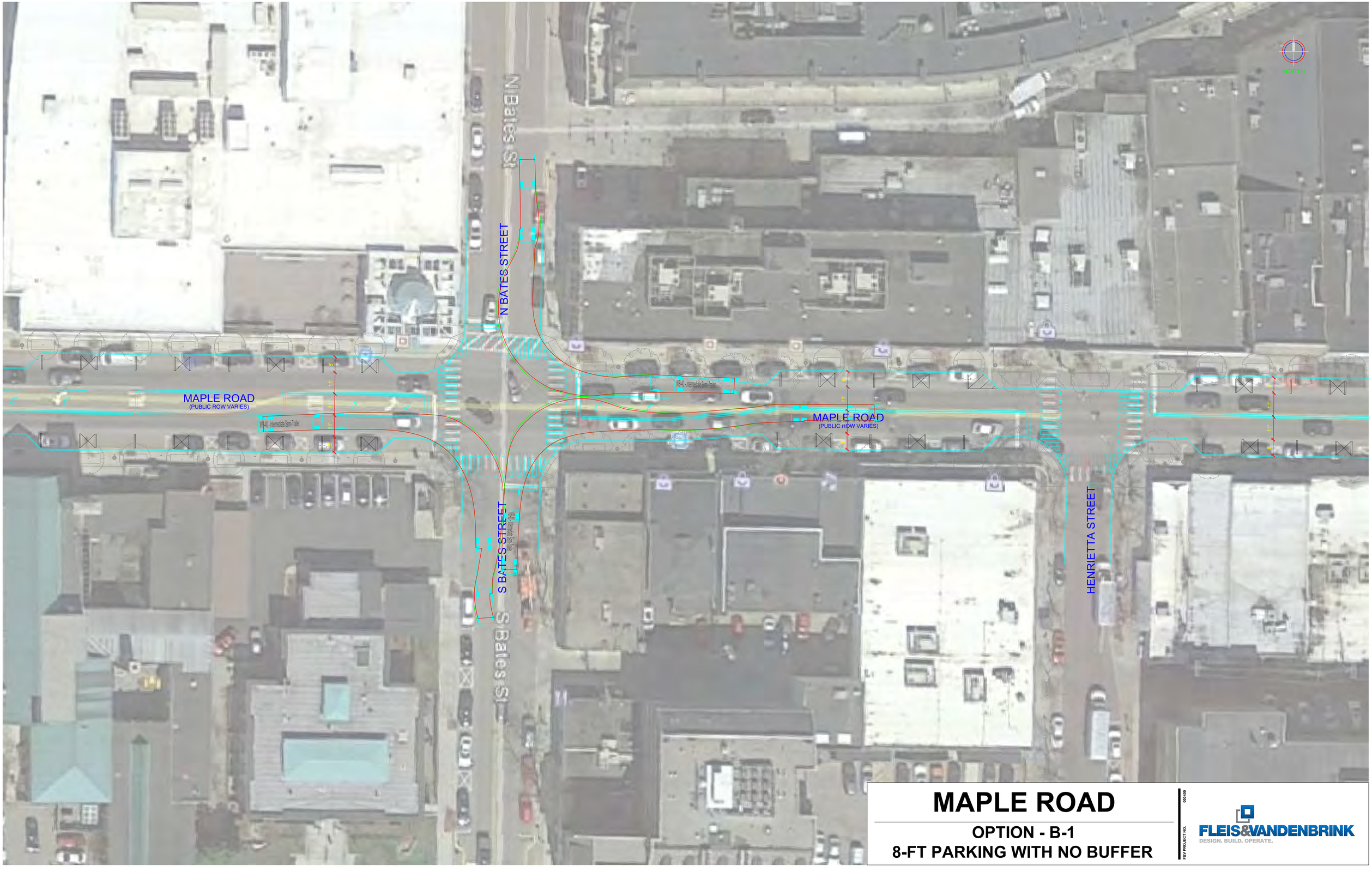


MAPLE ROAD

OPTION - B-1
8-FT PARKING WITH NO BUFFER

F&V PROJECT NO. 000400

FLEIS&VANDENBRINK
DESIGN. BUILD. OPERATE.



MAPLE ROAD

OPTION - B-1
8-FT PARKING WITH NO BUFFER

F&V PROJECT NO. 000400

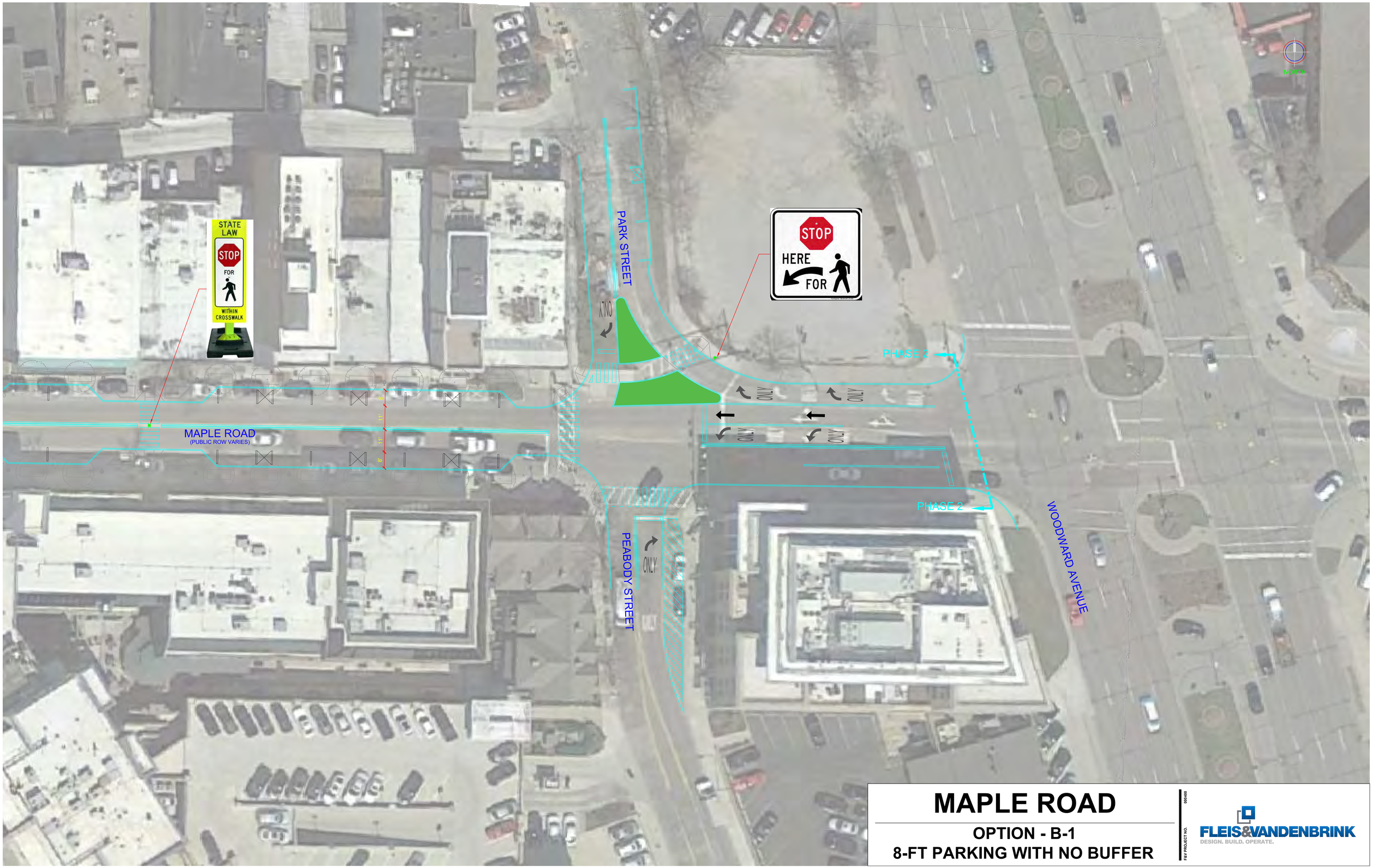
FLEIS&VANDENBRINK
DESIGN. BUILD. OPERATE.

MAPLE ROAD

OPTION - B-1
8-FT PARKING WITH NO BUFFER

F&V PROJECT NO. 000400

FLEIS&VANDENBRINK
DESIGN. BUILD. OPERATE.



MAPLE ROAD

OPTION - B-1
8-FT PARKING WITH NO BUFFER

F&V PROJECT NO. 000400

FLEIS&VANDENBRINK
DESIGN. BUILD. OPERATE.

CITY OF BIRMINGHAM
OAKLAND COUNTY, MICHIGAN
MAPLE ROAD - SOUTHFIELD TO WOODWARD
OPTION A - STREETSCAPE 2018
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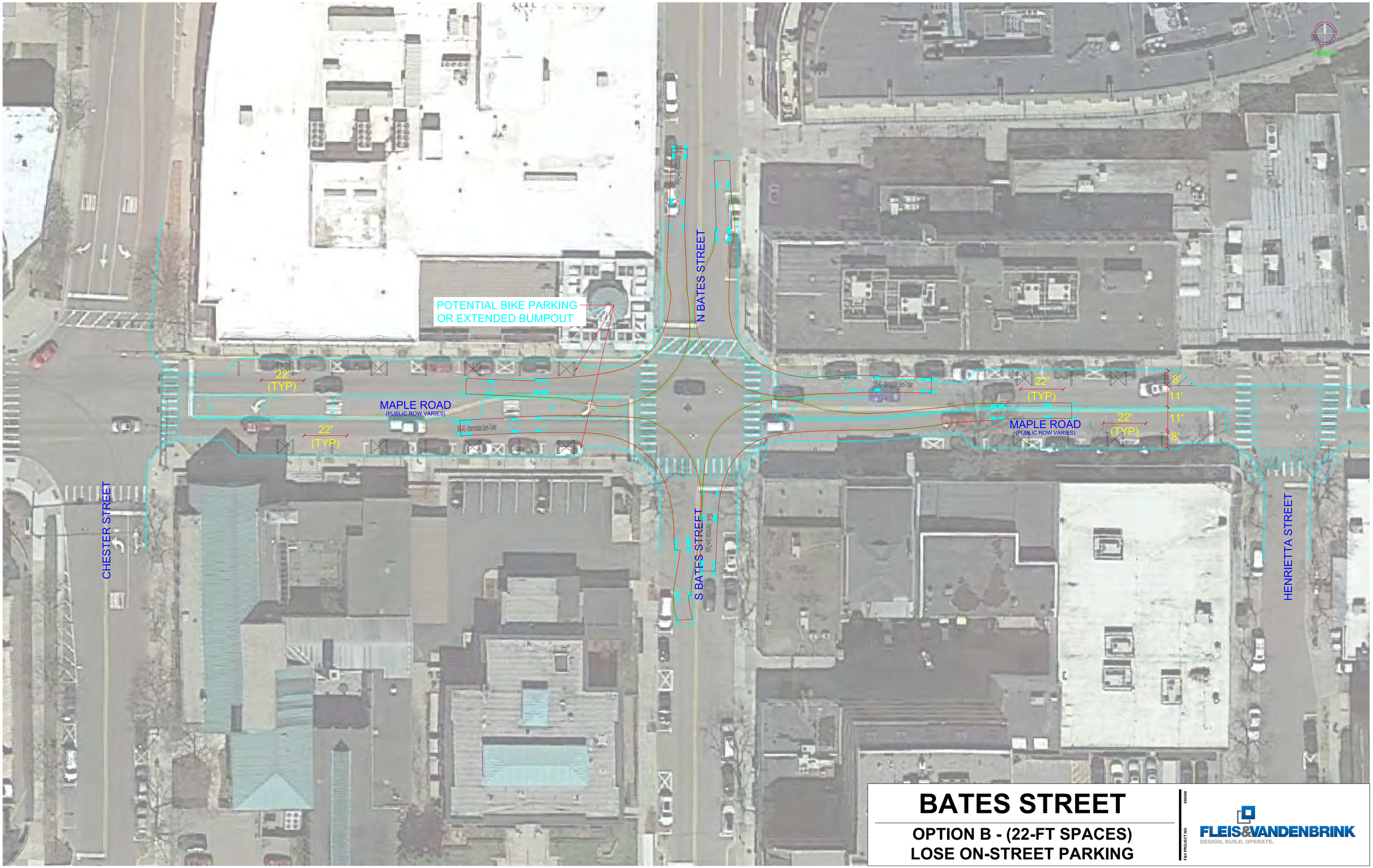
MAPLE ROAD
SOUTHFIELD ROAD
WOODWARD AVENUE
HENRY STREET
PEABODY STREET
LINCOLN STREET
Google earth

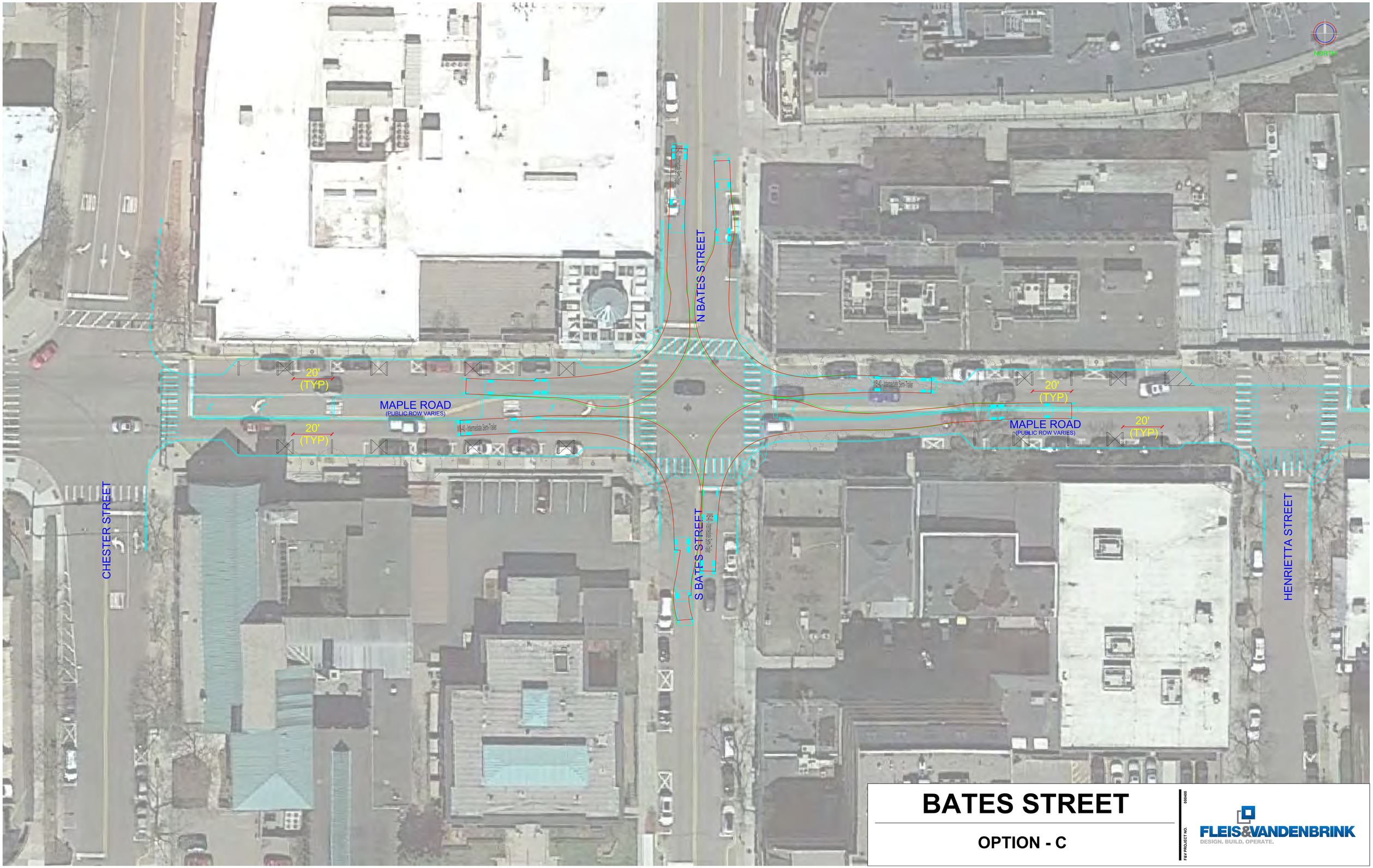


BATES STREET

OPTION B - (22-FT SPACES)
LOSE ON-STREET PARKING

F&V PROJECT NO. 000000

FLEIS&VANDENBRINK
DESIGN. BUILD. OPERATE.

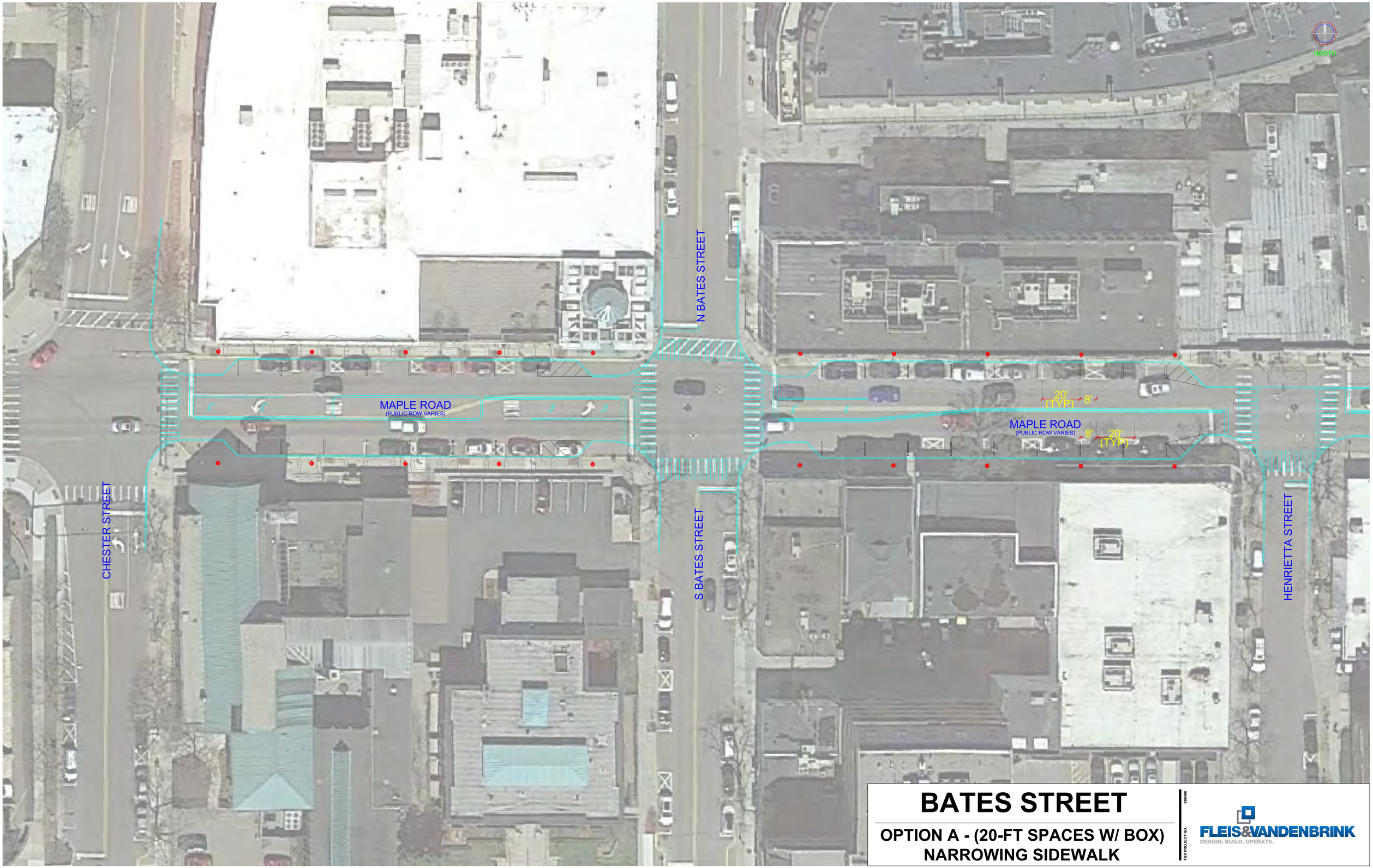


BATES STREET

OPTION - C

F&V PROJECT NO. 000400

FLEIS&VANDENBRINK
DESIGN. BUILD. OPERATE.

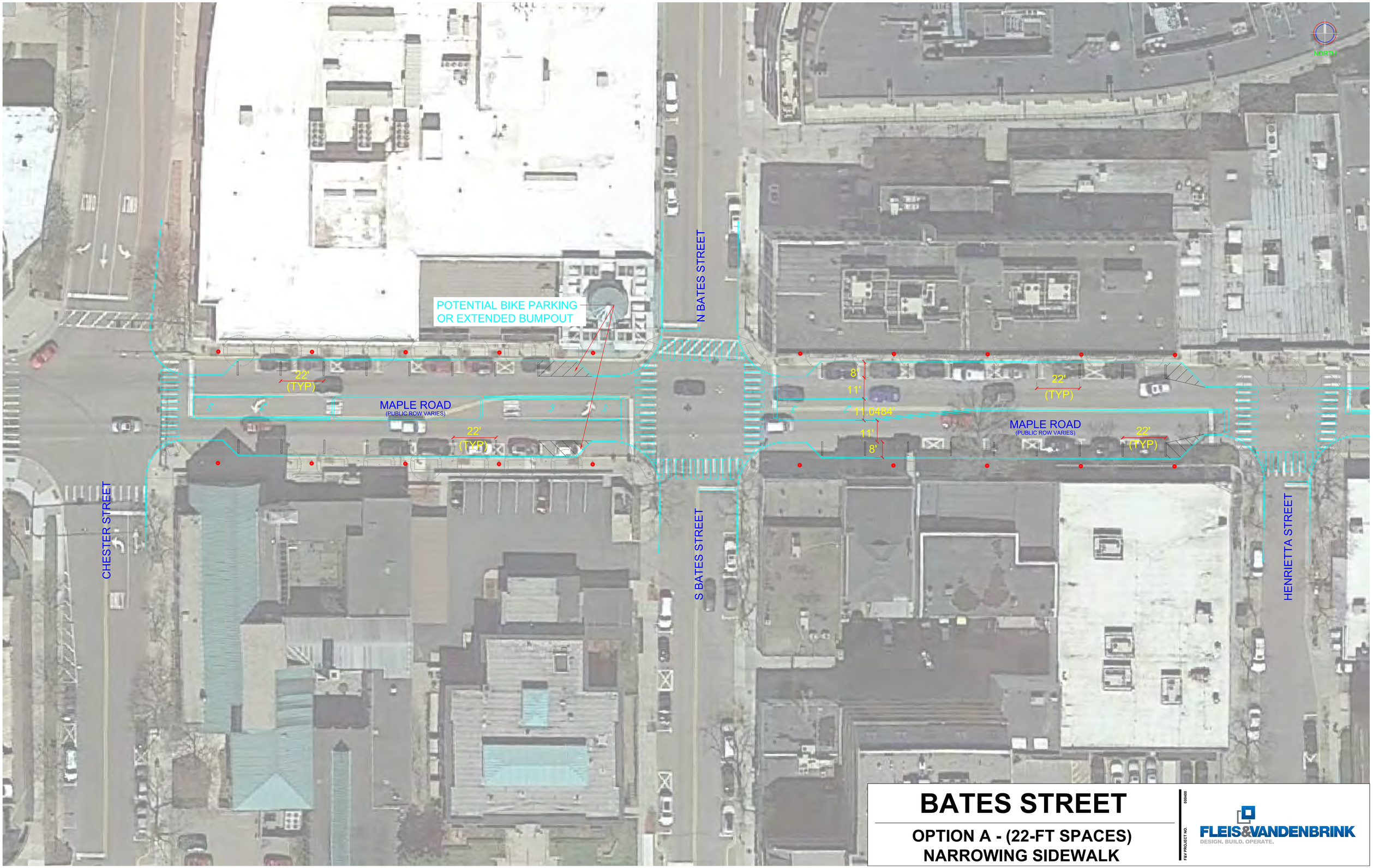


BATES STREET

OPTION A - (20-FT SPACES W/ BOX) NARROWING SIDEWALK

F&V PROJECT NO. 000400

FLEIS&VANDENBRINK
DESIGN. BUILD. OPERATE.

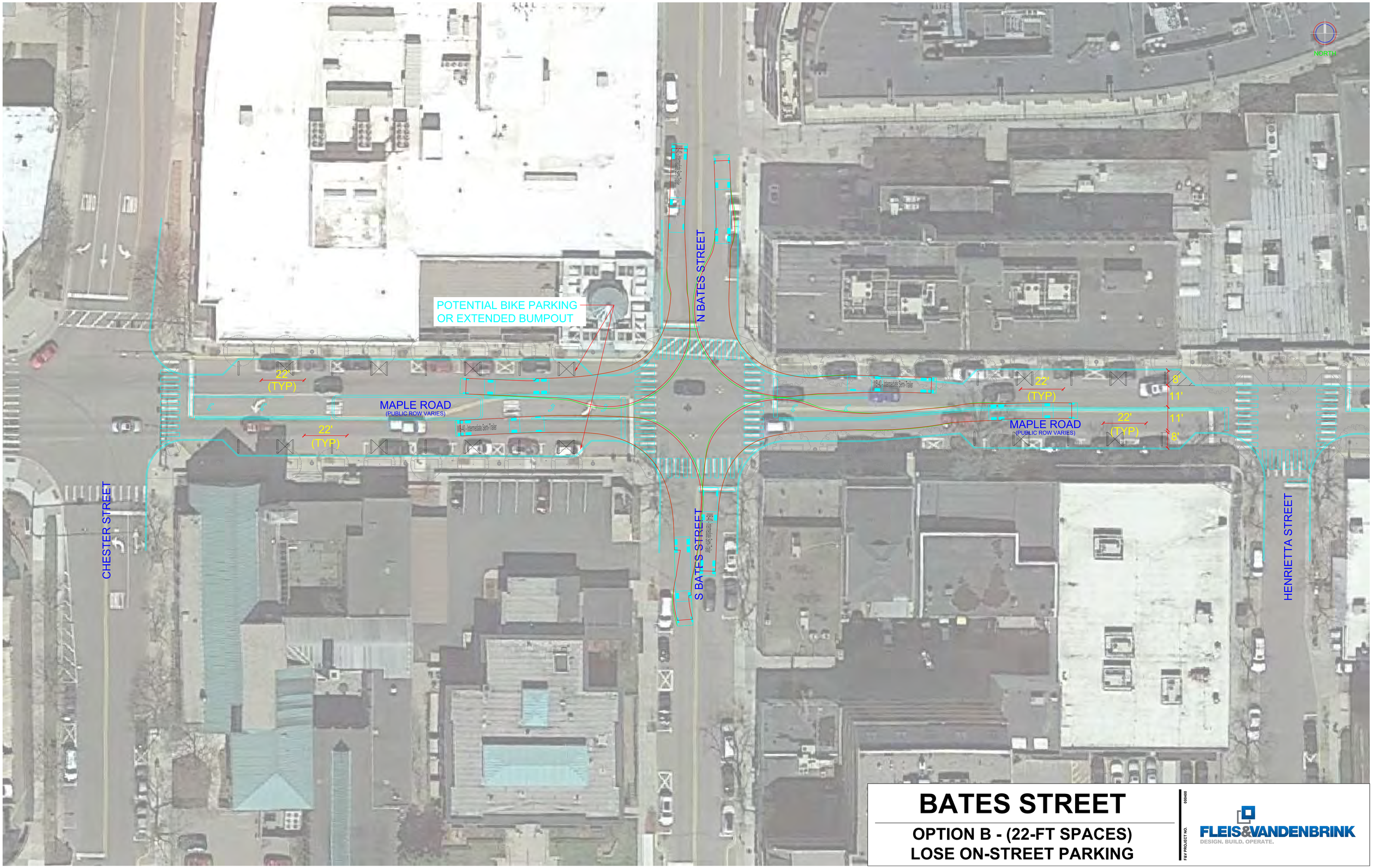


BATES STREET

OPTION A - (22-FT SPACES)
NARROWING SIDEWALK

F&V PROJECT NO. 000400

FLEIS&VANDENBRINK
DESIGN. BUILD. OPERATE.

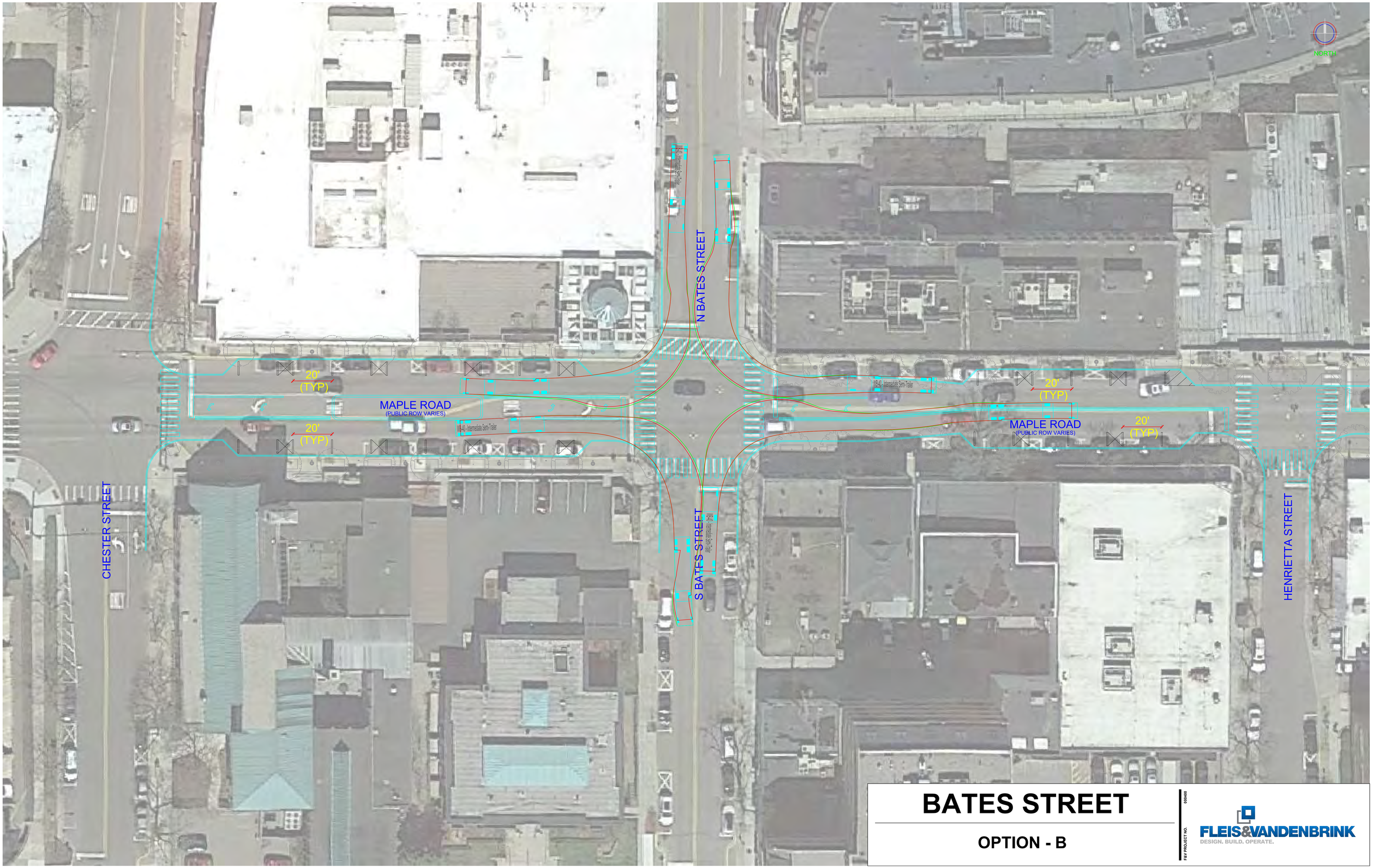


BATES STREET

OPTION B - (22-FT SPACES)
LOSE ON-STREET PARKING

F&V PROJECT NO. 000000

FLEIS&VANDENBRINK
DESIGN. BUILD. OPERATE.



BATES STREET

OPTION - B

F&V PROJECT NO. 000400

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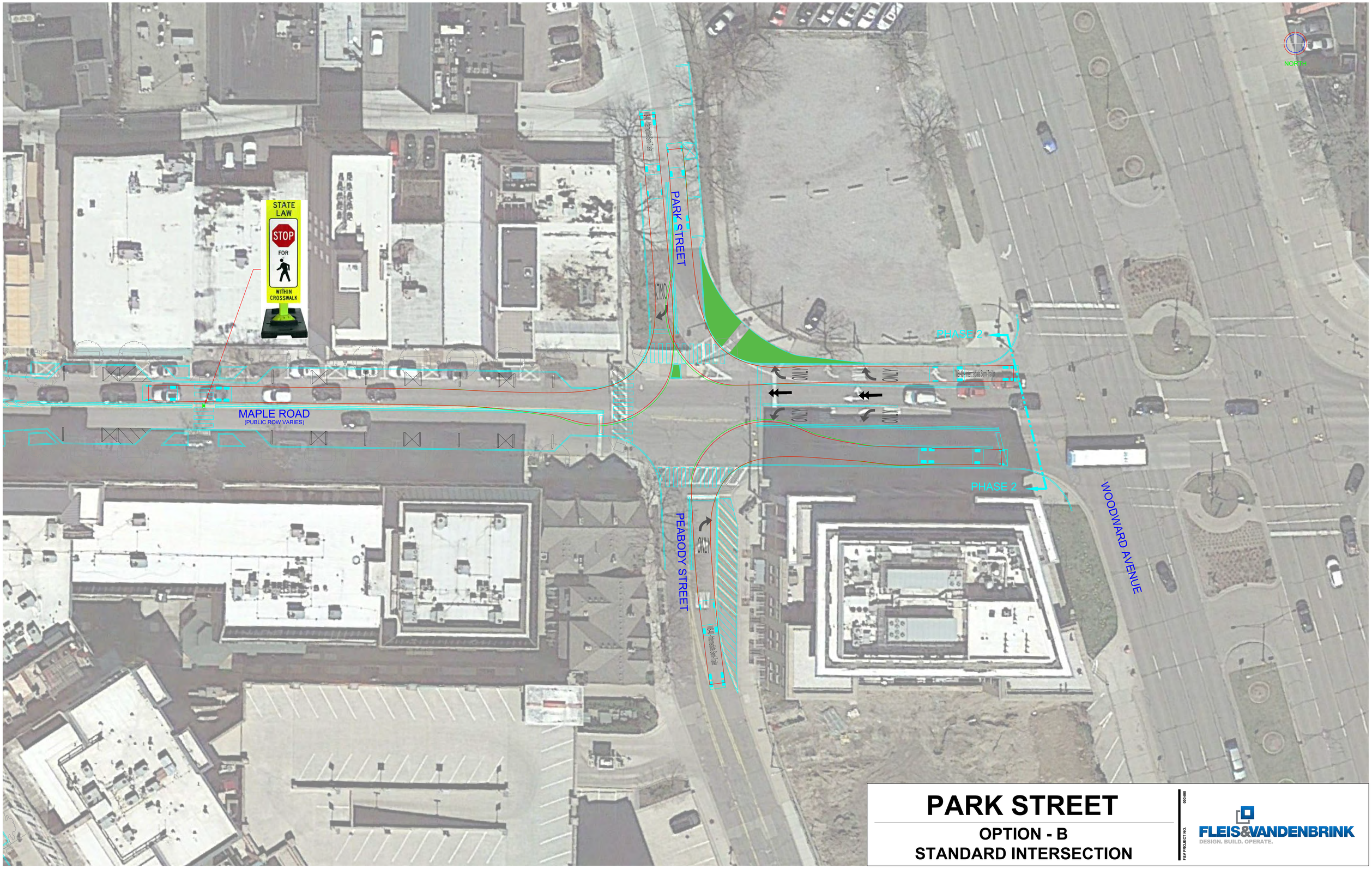
DESIGN. BUILD. OPERATE.



PARK STREET

OPTION - B
STANDARD INTERSECTION

F&V PROJECT NO. 000400

FLEIS&VANDENBRINK
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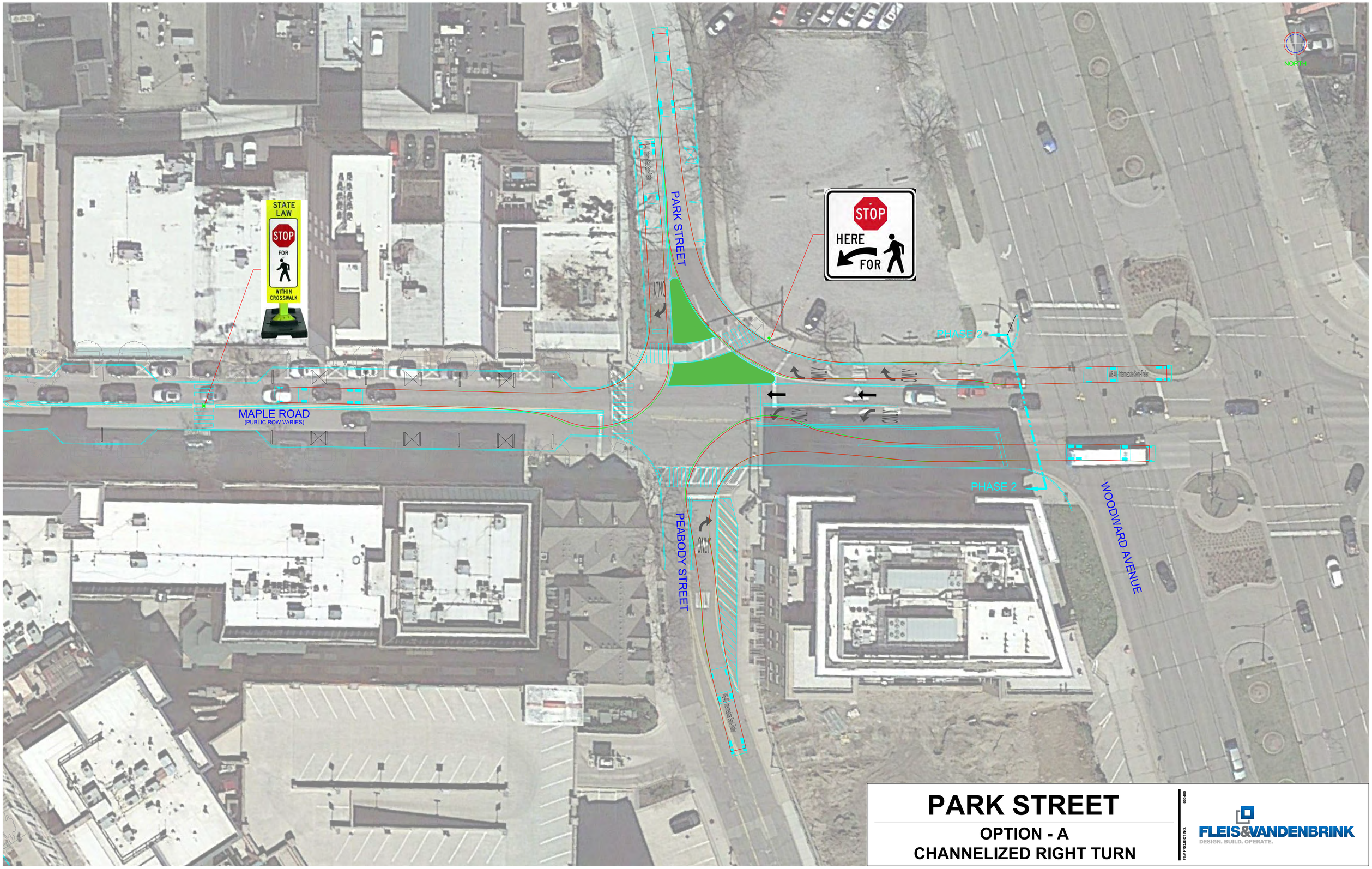

PARK STREET

OPTION - A
CHANNELIZED RIGHT TURN

F&V PROJECT NO. 000400

FLEIS&VANDENBRINK
DESIGN. BUILD. OPERATE.

WUOMFM
Here and Now

When the bus doesn't get you quite far enough (in Detroit)

By TRACY SAMILTON (/PEOPLE/TRACY-SAMILTON) • JUL 4, 2018

Tweet (http://twitter.com/intent/tweet?
url=http%3A%2F%2Fwww.j.mp%2F2MNC13U&text=When%20the%20bus%20doesn%27t%20get%20you%20quite%20far%20enou

(http://mediad.publicbroadcasting.net/p/michigan/files/styles/x_large/public/201807/MoGo.jpg)

MoGo is a non-profit bike share program in Detroit

CREDIT MOGO

Detroit is trying a pilot project to encourage people to use bikes for the first or last short leg of a bus trip.

Up to 2,000 people who buy bus passes in Detroit can get a free MoGo pass for the month. MoGo is the non-profit bike share company in the city.

Rory Lincoln is Director of Operations for MoGo. He says there are all sorts of ways the bikes can come in handy - like a short bike ride instead of waiting for a bus transfer - or a way to get closer to work when the bus doesn't take you all the way.

"They (bus riders) might walk across the street, hop on a MoGo as opposed to walking," he says.

MoGo currently has 430 bikes at 43 stations across the city. The monthly bike passes are usually $18 a month, $5 for those receiving public assistance.

Lincoln says Detroit doesn't have a lot of hilly roads, so the three speed bikes are usually easy to ride around town. The seat is adjustable so people of different heights can use the bikes (although people have to bring their own helmets).

MoGo staff monitor each bike docking station during the course of the day to make sure there are always bikes for people to use.

TAGS: BIKE SHARING (/TERM/BIKE-SHARING)

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A Capital Bikeshare station in downtown Washington, D.C. // Flickr/Mr.TinDC

Why Bike-Share Is Really Very Safe

AARIAN MARSHALL APR 4, 2016

The history of bike-share in the U.S. is pretty short. One of the first American programs on record, in Tulsa, Oklahoma, isn't quite a decade old, while larger programs in Minneapolis-St. Paul and Washington, D.C. have been running since 2010. Bay Area Bike Share (BABS) has been around since 2013. But the systems have already amassed a loyal following: Minneapolis's Nice Ride has seen nearly 800,000 trips since 2011, D.C.'s Capital Bikeshare has seen 5.9 million, and BABS almost 350,000.

Remarkably, though, none of these trips have concluded in fatal accidents on the road, says a new analysis from the Mineta Transportation Institute.

This is not because cycling has suddenly become less dangerous: the Centers for Disease Control and Prevention says more than 900 bicyclists died in 2013. The relationship holds when the researchers examine non-fatal collisions, too. The MTI researchers find that in three major bike-share systems—D.C., the Bay Area, and Minneapolis—there have been fewer overall collisions per 100,000 trips compared to national collision rate benchmarks. D.C., in particular, has seen excellent numbers: 65 percent fewer vehicle-involved collisions than national benchmarks. So what are bike-share programs—and bike-share riders—doing differently?

Why so safe?

To figure out why bike-share users have stayed safer than cyclists manning personal bikes on American roads, the MTI researchers consulted industry experts and held focus groups in the regions studied. They emerged with two explanations.

The first credits the design of bike-share bicycles. These behemoths were built for durability—they're stocky, heavy, and decidedly biased against speed. "I don't think these bikes were designed for safety," says Elliot Martin, an assistant research engineer at UC Berkeley who helped author the report. And yet, it looks like safety is a "side effect," he says. Limiting the speed of these shareable babies makes it harder for their riders to get into wrecks. Additionally, many bike-share cycles are brightly-colored, and come equipped with lights, all of which make them easier to see (and avoid) at night. The lesson, particularly for new bike-share systems, may be pretty simple: don't fix what ain't broke.

Figure 3. Bikeshare Bike and Road Bike Compared

A bike from Seattle's Pronto! system, manufactured by Arcade Cycles (left) vs. a typical road bike (right). (MTI)

Another reason may go back to the new users that have glommed onto bike-share. This explanation is somewhat counterintuitive. It might seem that riders who have newly adopted a cycling commute might be, well, pretty awful at it, liable to careen into poles or other bikers. But the MTI researchers suspect it's the opposite. New riders may be extra-cautious while aboard their borrowed bicycles, which could lead to fewer crashes.

There are other factors, too: Bike-share systems often pop up in dense, urban areas with at least a modicum of bicycle infrastructure, like protected lanes. Additionally, bike-share bikers are often maneuvering around slower-moving urban traffic, which decreases the risk of injury. (According to the experts consulted for the report, the ideal speed limit on a roadway with adjacent bike lanes should be between 20 and 30 mph.)

It should be noted that the researchers did find fatalities in other North American systems: Two people have died using bike-share in Canada, and one person died in Mexico. Additionally, the U.S. data doesn't mean that bike-share is risk-free. "Some people can and do get very injured using bike-share," Martin says.

The helmet conundrum

The report also adds to the mounting evidence against the efficacy of mandatory helmet laws. Previous studies have found that mandatory laws are *not* associated with lower rates bike-related hospitalization rates. And as the researchers write here:

> [Bike-share safety] is definitely not due to increased helmet use, which is widely documented to be lower among bike-sharing users. For all their well-documented safety benefits, helmets, like seatbelts in cars, mitigate the severity of injuries when a collision does occur, but they do not prevent the collision from occurring.

The science of bicycle helmet laws is, to put it bluntly, pretty weird. As the MTI researchers point out, helmets are good—they do reduce the incidence of head injuries among riders. But when examining bicycling populations on the whole, researchers have found that mandatory laws disincentivize bike trips, especially those spur-of-the-moment ones. As Eric Jaffe wrote on CityLab, "In places where [bicycling is] unsafe, the laws may make riding a little safer, but are also likely to distract attention from initiatives, such as infrastructure upgrades, that would be even more effective." In other words: if it's a zero-sum game, let's focus our energies on creating excellent bike infrastructure.

"Nevertheless," the MTI researchers write, "the widespread use of helmets in this environment would unequivocally improve bike-sharing safety."

Questioning "safety in numbers"

Another interesting takeaway from the report is that the researchers saw little evidence of the so-called "safety in numbers" thesis. This theory reasons that the more bikers riding the road, the more aware of them drivers will become. By that logic, more riders mean fewer crashes. This has been backed up by research: one landmark 2003 study of 68 California cities, 47 towns in Denmark, and 14 countries in Europe saw clear decreases in the numbers of pedestrians and cyclists struck by cars as the numbers of pedestrians and cyclists increased.

But the MTI researchers saw the number of collisions rising even as more bicyclists took to the roads. In the chart below, only Minneapolis-St. Paul saw a steady decline in collisions as bike-share use went up.

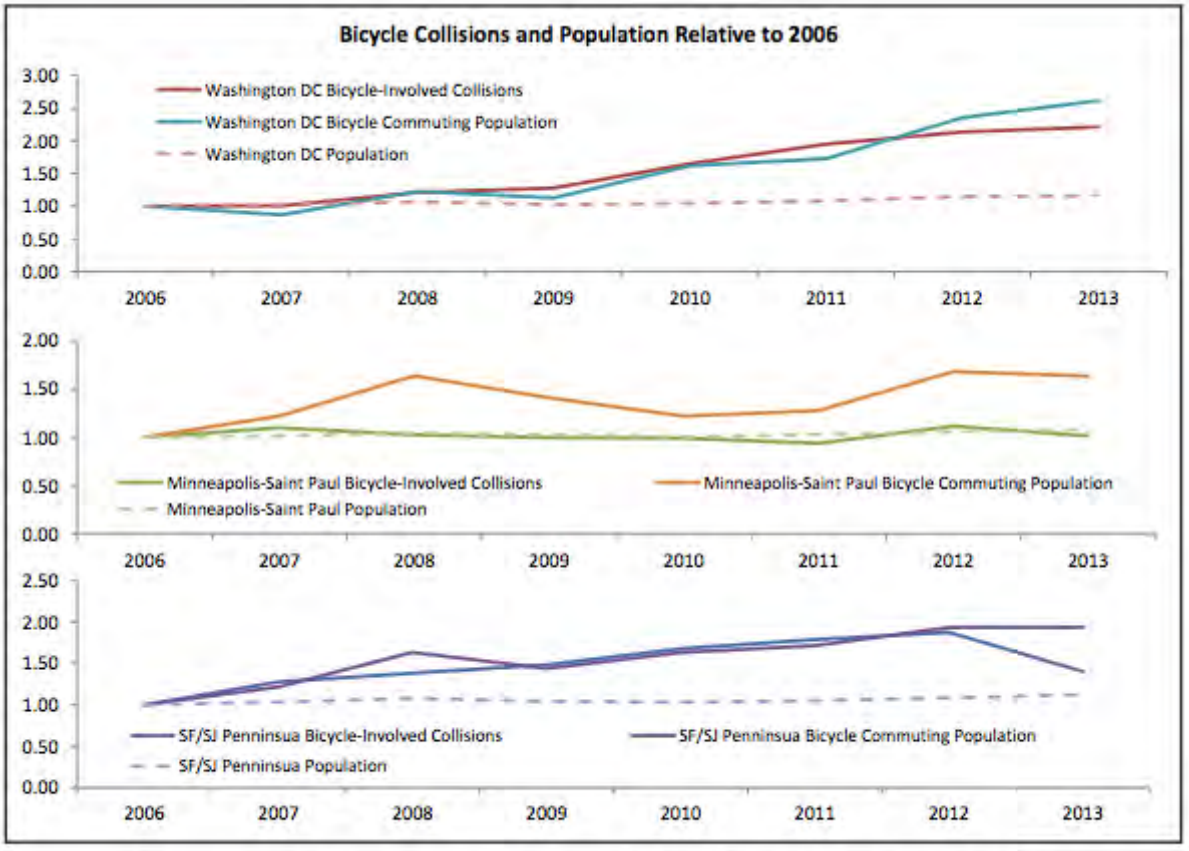

Figure 15. Bicycle Collisions and Population Relative to 2006

Comparing the rates of bicycle-involved collisions and bicycle commuting populations in Washington, D.C., Minneapolis and the Bay Area. On the y-axis, 1.00 represents the 2006 baselines for both bicycle-involved collisions and the bicycle commuting population. (MTI)

Martin, the Berkeley researcher, says this isn't enough evidence to abandon the safety in numbers thesis altogether. It could be that these cities have not yet reached the necessary cyclist saturation to get the extra boost from newly woke drivers. "The safety in numbers benefit might be a factor in some point in the future," he says, "but we couldn't find it."

Taken as a whole, though, the report serves as a handy cycling safety manual. Go slowly, carry a light, be cautious and aware of your surroundings, wear your helmet when you remember it, and, most crucially, advocate for more bicycle infrastructure and slower vehicle traffic. And Minneapolis-St. Paul's Nice Ride is as nice as it sounds. (Final tip: never leave Minnesota.)

About the Author

Aarian Marshall

@AARIANMARSHALL / FEED

Aarian Marshall is a contributing writer to *CityLab*. She lives in Brooklyn, New York.

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5 Changes Cities Can Make Right Now to Reduce Cyclist Deaths

Lower speed limits, sensor technology, and segregated bike lanes can help.

SHARE TWEET

Tracey Lindeman
Jun 26 2018, 12:30pm

Image: Shutterstock

Every year, about 37,000 Americans are killed in car crashes. If this were a disease, most of us would be demanding a cure. The fact that we're not, Canadian-Danish urban mobility expert Mikael Colville-Andersen told me in an interview, is a testament to our addiction to cars. "We're still designing streets like we thought we should in the 1950s," he said.

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This failure to modernize streets has come to the fore in Toronto, where the deaths of four cyclists and 18 pedestrians in the first half of 2018 have sparked outrage among the city's bike community, already exasperated from years of fighting over bike lanes, mounting death tolls, and broken promises to reform road safety.

"In the last two years, 93 pedestrians or cyclists have died violently on the streets... [This] reflects a state of emergency," wrote Jennifer Keesmaat, the former chief planner of Toronto, in an op-ed in the *Guardian*.

> ***Read More:*** *Cyclists Hate Scooters, So Amsterdam Is Banning Them From Bike Lanes*

Keesmaat, now the CEO of affordable rental home non-profit Creative Housing Society, told me her 25-minute commute requires splitting her ride equally between side streets, bike paths, and the street. "When I cycle to work, I end up doing about a third of my trip on routes that are really hostile to cyclists," she said. "You need a trip that's 100 percent [on protected bike paths]."

Getting to 100 percent, however, is a challenge—especially because it necessarily involves pissing off drivers. Still, as cycling becomes more popular as a mode of transportation, more cities are beginning to reimagine the urban landscape. Here's how:

Protected bike paths

As an easy first step, Keesmaat pointed to protected bike paths. These paths use a barrier—concrete medians, flex-posts, or in Toronto's case, flower boxes—to separate cars from cyclists, ideally for the entirety of their journey. "Collisions have been very rare where they've been put in place," said Keesmaat.

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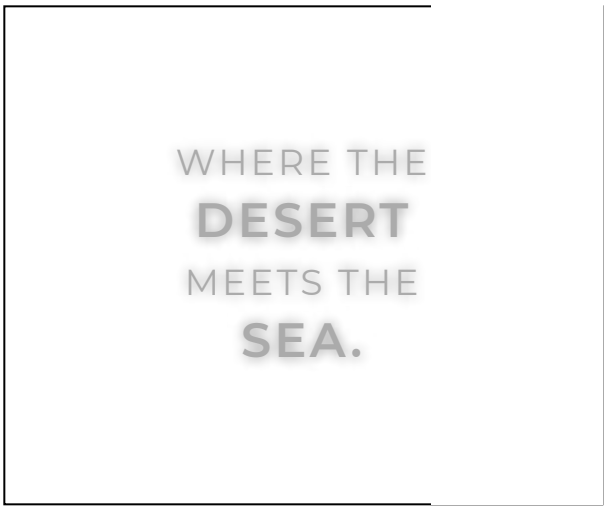

Protected bike paths (known as Cycle Superhighways) were introduced in London, UK, in 2014. Last year, the city reported that they moved five times more people per square meter than the main road.

No right turns at red lights

Even with medians on bike paths, unprotected intersections remain a problem area—particularly when turning cars cut across bike paths. To help solve this, right-on-red could be banned, as it is in New York City and Montreal, and bike-specific traffic lights could be implemented so that cyclists have time to cross the street without fearing they'll get T-boned.

Dave Bullock, VP of Market Strategy at smart-city company Miovision, said this idea could be taken a step further by synchronizing traffic lights to let cyclists coast through

intersections. Using machine learning and computer vision, “we can hold the yellow light to allow [cyclists] safe passage,” said Bullock.

Lower speed limits

Red-light cameras, too, can help enforce traffic rules and speed limits—but they won’t do much good if we continue to allow motorists to zip through city streets at 30 miles (50 kilometers) per hour, said Keesmaat. At 20 miles (32 kilometers) per hour, non-drivers have a five percent mortality rate. At 40 miles (64 kilometers) per hour, the chance of a pedestrian or cyclist dying jumps to 85 percent. “If you slow down by 10 kilometers an hour, it’s amazing—you see survival rates go up,” Keesmaat said.

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SUN-KISSED SHORES BE

Paris is reducing speed limits throughout the city to 18 miles (30 kilometers) per hour; according to the city, this contributed to an eight percent reduction in road fatalities in 2017. New York City, which also introduced lower speed limits as part of its Vision Zero safety program, had a record low number of traffic deaths last year. (But cyclist deaths are trending upwards, so it’s a work in progress.)

The political will to change speed limits varies wildly between cities, and even neighborhoods. Warren Huska, a Toronto-based cycling advocate who straps a pool noodle to the back of his bike to keep cars at a distance, told me in an email that some city councillors refuse to lower speed limits because it would interfere with car traffic.

Torontonian Warren Huska's bike has a pool noodle strapped to it to keep cars away. Credit: Warren Huska

"It's kind of shameful that we have a class system that puts vehicle drivers' high-speed [trips] through neighborhoods above the safety of the people who live, learn, shop, and play in those neighborhoods," he said.

'Bicycle-to-vehicle' technology

Transportation technology firms are also working on solutions to try and solve the problem of traffic fatalities. Eric Bjorling of bicycle manufacturer **Trek Bikes** said that wearable or bike-mounted sensors could light up a display on car dashboards, alerting them to the presence of cyclists and pedestrians. Trek is part of **an advisory committee** composed of bike and auto manufacturers looking to make "bicycle-to-vehicle" technology a standard before driverless vehicles hit the market.

Fundamental redesign of our streets

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As cycling moves from a recreational activity to a popular mode of transport in our dense, congested cities, people are becoming more interested in the idea of reclaiming the space we so freely allocated to cars in the mid- to late-1900s. An integral part of this movement is making driving harder.

In the year since Ghent, Belgium, introduced a new circulation plan that forced drivers off of local streets and onto its inner-ring road, there's been a 25 percent increase in cyclists, eight percent higher transit ridership, and 58 percent fewer cars on residential streets as well as 25 percent fewer collisions in the city center.

"A street designed for bicycle traffic with bus lanes or tram lines on it can move 10 times the [number] of humans down a street than the old-fashioned car-centric designs that we just inherited from a previous century without even thinking," said Colville-Andersen.

Reinventing the city for the next century of cyclists doesn't have to be complicated, he continued. Even with the arrival of new transportation technologies, most bike-friendly solutions are fairly timeless. "We know what to do," he said. "It's just simple infrastructure design that's 100 years old. It's redesigning our streets to be safer, slowing down the automobiles."

MORE FROM MOTHERBOARD

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City of Birmingham
A Walkable Community

Paul O'Meara <pomeara@bhamgov.org>

Fwd: New crash stats available; AAA and SEMCOG announce partnership

1 message

Joe Valentine <jvalentine@bhamgov.org> Thu, Jun 28, 2018 at 1:50 PM
To: Jana Ecker <Jecker@bhamgov.org>, Scott Grewe <Sgrewe@bhamgov.org>, Paul O'Meara <Pomeara@bhamgov.org>, Austin Fletcher <afletcher@bhamgov.org>

fyi
---------- Forwarded message ----------
From: **SEMCOG News Release** <communications@semcog.org>
Date: Thu, Jun 28, 2018 at 9:02 AM
Subject: New crash stats available; AAA and SEMCOG announce partnership
To: jvalentine@bhamgov.org

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SEMCOG AAA

FOR IMMEDIATE RELEASE
JUNE 28, 2018

Contacts:
AAA - The Auto Club Group
Susan Hiltz, Public Affairs Director, Michigan
586.940.0278

SEMCOG
Trevor Layton, SEMCOG Communications
313.580.6195

AAA and SEMCOG Announce *Walk. Bike. Drive. Safe* Partnership

New SEMCOG report validates growing traffic safety concerns

Summer is in full swing as the Independence Day holiday approaches. With warmer weather providing more opportunities for people to be mobile and enjoy the outdoors, pedestrian, bike, and vehicle traffic is expected to increase. Regardless of how people are traveling, safety should remain a top priority, according to a newly released ***"Quick Facts" Report*** from SEMCOG, the Southeast Michigan Council of Governments.

In response to the findings from this report and in an effort to address growing concerns about traffic safety, AAA and SEMCOG will be officially announcing their ***Walk. Bike. Drive. Safe*** **partnership** in conjunction with SEMCOG's Southeast Michigan Communicators Network conference being held at Little Caesars Arena this afternoon. The two organizations will team up with communities and agencies throughout the region to educate the public through media, material and information distribution, community events and public awareness activities throughout the year.

"The main goals of our partnership are to reduce the number and severity of non-motorized crashes, increase knowledge of the responsibilities of walkers, bicyclists and motorists, and build respect between all road users," said Kathleen Lomako, Executive Director of SEMCOG.

"As an advocate for the motoring, biking and walking public, AAA is honored to join forces with SEMCOG in this important effort to increase public awareness about traffic safety. We look forward to having a positive impact on Michigan motorists, bicyclists, and pedestrians with this partnership," added Susan Hiltz, Michigan Public Affairs Director for AAA – The Auto Club Group.

AAA and SEMCOG offer these *Walk, Bike, Drive.* Safety Tips:

Walk Safe

Always...

- Look left-right-left before crossing a street and watch for turning vehicles.
- Cross streets at marked crosswalks or intersections.
- Obey all traffic signals. Only enter the street during the "WALK" symbol when crossing at a signal.
- Walk on the sidewalk; if there is no sidewalk, walk facing traffic and as far to the left as possible.
- Yield the right-of-way to motorists and bicyclists when crossing outside of a marked crosswalk.
- Give ample time for a vehicle to yield prior to entering the street.

Never...

- Assume drivers see you. Wait for them to stop and make eye contact before crossing a street.
- Walk after dark and in bad weather without bright and reflective clothing.
- Walk distracted, including talking or texting on your phone or listening to headphones.

Bike Safe

Always...

- Obey all traffic signs and signals.
- Ride with traffic, not against it.
- Watch for turning vehicles at intersections and driveways.
- Use your hands to signal when you plan to turn, slow down, or stop.
- Wear a properly fitted helmet.
- Yield the right-of-way to pedestrians on sidewalks or crosswalks.
- Give an audible warning before you pass people on a sidewalk or bicyclists on the road or path.

Never...

- Ride after dark without a white headlight, a red rear light, and bright and reflective clothing.
- Ride distracted, including talking or texting on your phone or listening to headphones.

Drive Safe

Always...

- Watch for people who are walking and biking.
- Yield to people walking and biking when turning.
- Stop or yield to people within all crosswalks. Crosswalks exist wherever sidewalks cross roads, even if no lines are painted in the road.
- Share the road with bicyclists. They are legally allowed to ride on all roads, even when there is a bike lane or side path present.
- Leave 5 feet when passing bicyclists.
- Obey the posted speed limit.

Never...

- Block or park in crosswalks and bike lanes.
- Pass a vehicle that is stopped for pedestrians.
- Drive distracted, including talking or texting on your phone.
- Drive after consuming alcohol or drugs.

Quick Facts Report – Key Findings from Southeast Michigan Traffic Crash Data

Traffic fatalities down, but serious injuries on the rise

- The number of traffic crashes in Southeast Michigan remained steady in 2017. There were 145,427 total crashes, a down less than one percent from 2016, but still up nine percent from 2008.
- Traffic fatalities decreased for the first time in seven years, down from 430 in 2016 to 369 in 2017. The 14 percent decrease was the largest decrease in fatalities in the past decade.
- Serious injuries increased for the second consecutive year, up eight percent to 2,235 in 2017.

Pedestrian crashes and serious injuries rising

- Crashes involving pedestrians increased two percent, while pedestrian serious injuries increased 32 percent. Pedestrian fatalities decreased for a second year, down 18 percent from 2016 but still up 26 percent from 2008.
- In 2017, pedestrian crashes still accounted for less than one percent of all crashes, yet pedestrians accounted for 22 percent of all traffic fatalities. Nationally, pedestrian fatalities account for 16 percent of all traffic fatalities.

Bicycle crashes and fatalities down, serious injuries continue to increase

- Crashes involving bicycles decreased for the first time in three years, down 15 percent to 914.
- Bicyclist fatalities dropped to five, a 69 percent decrease and 10-year low.
- Bicyclist serious injuries increased for the second consecutive year, up 29 percent.

--##--

AAA in Michigan *celebrated its 100th Anniversary - A Century of Service last year and has over 1.4 million members across the state. It is part of The Auto Club Group (ACG). Connect with us on Facebook and LinkedIn.*

The Auto Club Group (ACG) *is the second largest AAA club in North America. ACG and its affiliates provide membership, insurance, financial services and travel offerings to over 9 million members across eleven states and two U.S. territories including Florida, Georgia, Iowa, Michigan, Nebraska, North Dakota, Tennessee, Wisconsin, Puerto Rico and the U.S. Virgin Islands; most of Illinois and Minnesota; and a portion of Indiana. ACG belongs to the national AAA federation with more than 57 million members in the United States and Canada and whose mission includes protecting and advancing freedom of mobility and improving traffic safety. Motorists can map a route, identify gas prices, find discounts, book a hotel, and access AAA roadside assistance with the AAA Mobile app for iPhone, iPad and Android. Learn more at AAA.com/mobile. AAA clubs can be visited on the Internet at AAA.com.*

SEMCOG *is a regional planning partnership of governmental units serving 4.7 million people in the seven-county region of Southeast Michigan striving to enhance the region's quality of life. Learn more about SEMCOG HERE.*

The Southeast Michigan Traffic Safety Plan *was developed by SEMCOG. It utilizes the four Es of safety: engineering, education, enforcement, and emergency medical services to address safety issues in the region. SEMCOG uses crash data from the Michigan State Police, Criminal Justice Information Center (CJIC), to update various safety resources. Based on 2017 data, SEMCOG has updated information on traffic crashes, fatalities, and serious injuries. Crash factors identified as key emphasis areas include older drivers, younger drivers, pedestrians, bicycles, lane departures, drugs, and alcohol. Learn more about the Southeast Michigan Traffic Safety Plan HERE.*

Send to a friend

Just How Much Space Does a Cyclist Need, Anyway?

Sue Kropscott - Cycling Savvy

As with most issues, opinions vary on how much space a cyclist needs. And as with anything else, the more factual information we have and the more knowledge we gain, the more valid our conclusions become. Let's walk through what we know about the characteristics of a bicycle and applicable Michigan traffic law as it relates to a cyclist's spatial needs.

Lateral spatial needs are determined by combining operating width, space for defensive riding, and clearance from other vehicles.

The American Association of State Highway and Traffic Officials (AASHTO) determines the minimum operating width of an upright bicycle to be 4 feet, allowing 30 inches for the bicycle and cyclist, plus 9 inches to each side. A lot of people stop here when determining adequate bicycling space. After all, that's what cars are allotted – the width of the vehicle plus a little bit to each side. See how that space looks when sharing a 12-foot lane in Figure 1.

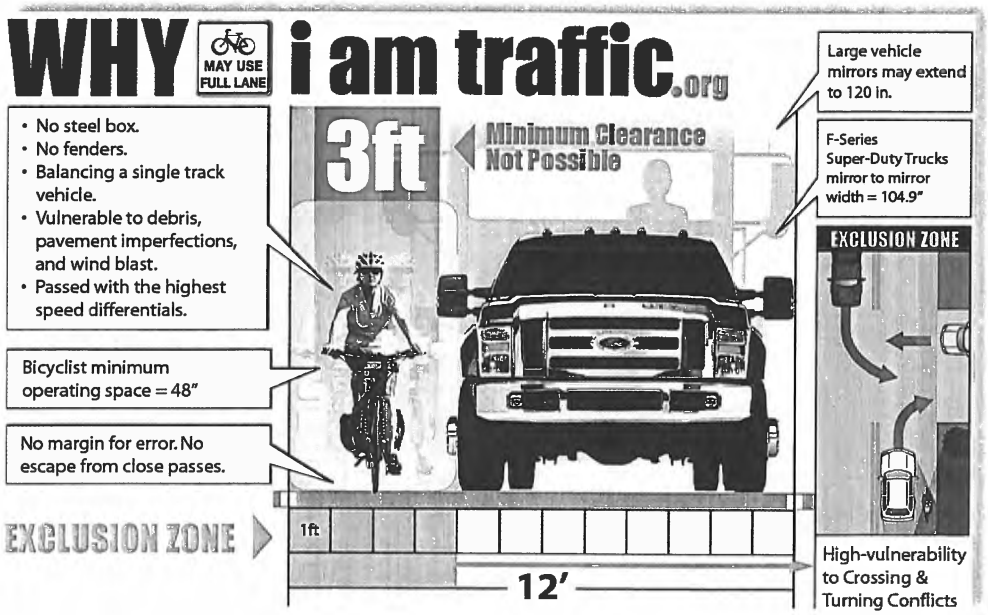


Figure 1

However, there is an important difference between 4-wheeled vehicles and 2-wheeled vehicles. 4-wheeled vehicles don't fall over; 2-wheeled vehicles do. Unlike the wide tires on motor vehicles that can easily roll over most surface hazards, the narrower tires and reactive steering characteristics of a bicycle constitute a fall risk when riding over them. Cyclists need space to go around hazards.

To protect their own safety, cyclists need to ride where they can see and be seen. Traveling where one has the best sight lines (vantage) is a basic safety strategy for all drivers—motorists, motorcyclists, and bicyclists. That's why car drivers are positioned on the left side of the car. The sooner people see each other, the more time and space they have to coordinate their movements and share space safely.

Cyclists need space between themselves and other vehicles. Gusts of wind blast from larger, fast-moving vehicles, encountering an unexpected hazard, or contacting a raised roadway feature can cause cyclists to veer suddenly. Cyclists need space to swerve or fall unexpectedly without risk of being hit by approaching motorists.

Cyclists need separation not only from moving vehicles, but stationary ones as well. When analyzing crash data from sources that include doorings (crashes caused by opening a car door into traffic), recent research found that doorings make up 12% to 27% of all urban car-bike crashes. ("Bike Lanes Next to On-Street Parallel Parking", Paul Schimek, PhD) Cyclists need to ride at least 5 feet from parked cars to protect themselves from getting doored.

So, how much space does a cyclist need? Besides 4 feet of operating width, cyclists need several feet more on each side to avoid hazards, to ride where they can see and be seen, to fall or swerve unexpectedly, and to maintain a safe clearance from other vehicles. That adds up to most of a lane—about the same space someone driving a car uses. It looks like Figure 2.

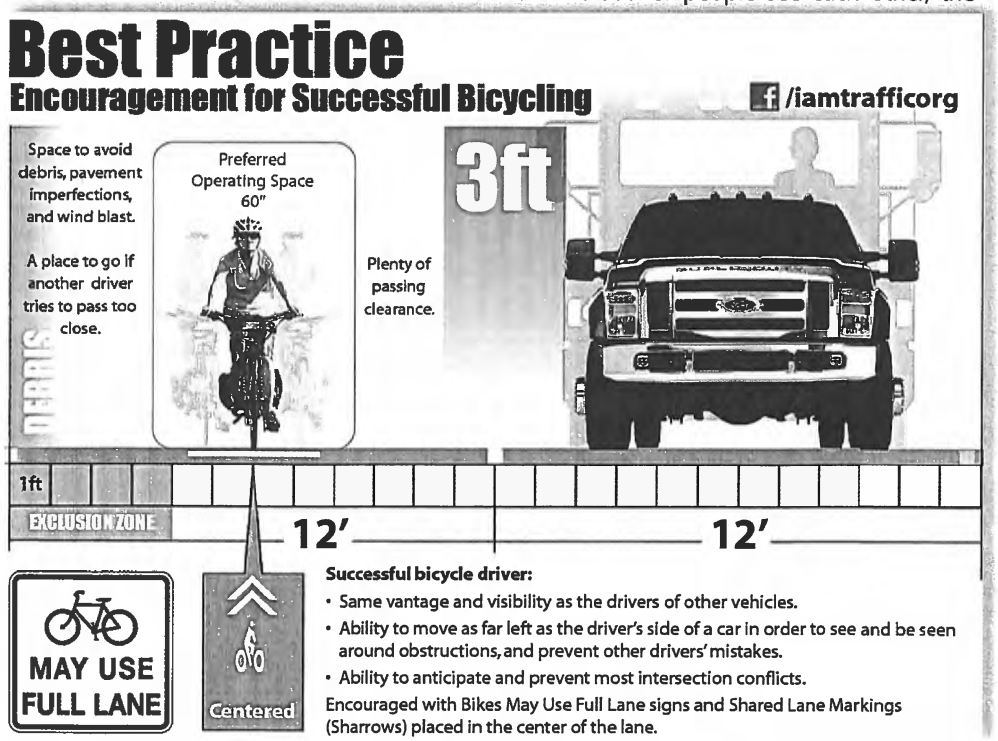


Figure 2

Coninued on Page 10

Continued from Page 4

But what about the law that says you have to ride on the far right? Let's take a quick look at how and why that law came to be, and what it actually says.

When automobiles started becoming more prevalent, the law was made for cyclists to ride near the far right edge of the lane in order to facilitate in-lane passing by motorists. But it soon became obvious that riding in this position is problematic for cyclists, so a long list of exceptions** was added for the purpose of assuring cyclists' safety when being passed. [Michigan Vehicle Code (MVC) Section 257.660a.] When any of these exceptions apply, cyclists do not have to ride on the far right of the lane.

The most significant exception is "if the lane is too narrow to permit a vehicle to safely overtake and pass a bicycle." The Michigan Department of Transportation (MDOT) "Bicycle and Pedestrian Terminology" booklet, in agreement with numerous traffic guidance documents, defines a narrow lane as "a travel lane less than 14 feet wide, which therefore does not allow bicyclists and motorists to travel side-by-side within the same traffic lane and maintain a safe separation of distance."

As it turns out, this exemption alone applies to approximately 99% of all lanes, making it rare that the far to right law applies at all. Most lanes are 10 to 12 feet wide. As a result, cyclists can use as much of a lane as they need in order to ride defensively and protect their own safety.

But isn't it RUDE to take up a full lane? Courtesy and cooperation are important components of our traffic system. We'll discuss how cyclists can participate safely, legally and politely, in the next issue.

** In 2016, LMB led a successful campaign to amend the MVC from saying "as close as possible" to "as close as practicable". The change added five specific exceptions for when a cyclist is allowed to ride further in the travel lane.

Editor's Note: LMB advocates 5 feet as the minimum amount of space a vehicle should give a bicyclist when passing. Grand Rapids, Kalamazoo, Ann Arbor, Portage, Oshtemo Township, Dearborn, Kalamazoo Township, and Norton Shores have all adopted five-foot passing ordinances. Battle Creek has a similar policy.

Sue Kropscott is a CyclingSavvy Instructor, LMB member, & life-long transportation cyclist. CyclingSavvy is an adult traffic cycling course. For more information, visit cyclingsavvy.org

When Cars Turn Left

Sarah W. Colegrove & Todd E. Briggs

We recently represented a person who was injured while riding her bicycle. She was riding through an intersection that had a stop light. Even though she had the green light, a car turning left from the opposite direction, who also had the green light, struck her causing significant injury.

Unfortunately, this is one of the most common scenarios we get hired to litigate. Who was in the right?

As we know, each person riding a bicycle upon a roadway has all of the rights and is subject to all of the duties applicable to the driver of a motor vehicle (MCL 257.657). The applicable statue when a bicyclist is riding through an intersection with a traffic signal is MCL 257.650 and it states: "At an intersection at which a traffic signal is located, a driver intending to make a left turn shall permit vehicles bound straight through in the opposite direction which are waiting a go signal to pass through the intersection before making the turn."

Here, the bicyclist had the right of way because she was lawfully riding straight through the intersection over the car who turned left in front of her without yielding. In Michigan, since the automobile driver was at fault and caused the collision, the no-fault insurer of the automobile driver is liable for any pain and suffering the bicyclist experienced, if her injury is above the threshold mandated by MCL 500.3135.

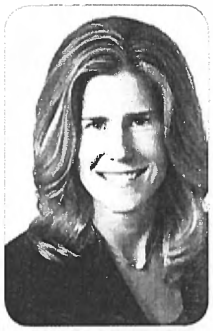
Other potential right of way rules that motor vehicles are required to follow, when no traffic control device is present, to ensure safe bicycle travel are found at MCL 257.649, which state:

- The driver of a vehicle approaching an intersection shall yield the right of way to a vehicle which has entered the intersection from a different highway.
- When 2 vehicles enter an intersection from different highways at approximately the same time, the driver of the vehicle on the left shall yield the right of way to vehicle on the right.

When a vehicle approaches the intersection of a highway from an intersecting highway or street which is intended to be and is constructed as, a merging highway or street, and is plainly marked at the intersection with appropriate merge signs, the vehicle shall yield right of way to a vehicle so close as to constitute an immediate hazard on the highway about to be entered and shall adjust its speed so as to enable it to merge safely through traffic.

It is important to know and understand the rules of the road when cycling on the road, in particular these rules pertaining to the right of way at intersection. Feel free to email us at attorneys@briggscolegrove.com with your questions and comments.

As always, please ride safely!



© 2017 Todd E. Briggs and Sarah W. Colegrove. Todd and Sarah are lawyers in private practice. In addition to helping athletes injured in bicycle and sports-related accidents, they concentrate in the areas of civil litigation, including personal injury, commercial litigation, probate and estate planning law. Todd and Sarah are competitive cyclists, triathletes and adventure racers. Each has competed in many state and national swimming, running, biking and triathlon competitions, including the Hawaii Ironman. You can contact them at the following address or telephone number:

Briggs Colegrove, P.C.
660 Woodward Ave., Suite 1523
Detroit, Michigan 48226
attorneys@briggscolegrove.com
(313) 964-2077

THE STAR

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We spent rush hour watching cyclists and drivers navigate an ‘absolutely terrifying’ Toronto intersection. Most did it wrong

By **TAMAR HARRIS** Staff Reporter
Tues., June 26, 2018

The driver of a silver four-door car merges late into the painted green lane on Richmond St., crossing a solid white line. Within seconds, the car is surrounded by cyclists: five on the passenger’s side, three on the driver’s.

When the light turns green, the cyclists proceed straight through the intersection, passing the car

on both sides. The driver then turns right, onto Bay St.

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That’s not what is supposed to happen.

The Star filmed drivers and cyclists using the busy intersection of Bay and Richmond Sts. for two hours at rush hour on Thursday. In total, we identified 609 infractions by drivers and cyclists. The majority of both navigated the intersection wrong, according to the city’s design.

The Richmond cycle track is the city’s most-travelled protected bike route. Bike traffic on the street has risen more than 600 per cent since the track was installed, with dramatically lower rates of collision, according to city data. No cyclists or pedestrians have been killed or seriously injured at the intersection in the last decade, according to police data.

Still, cyclists and experts who reviewed the Star’s findings called the intersection “confusing,” and said it is an example of how inconsistent infrastructure can make it dangerous to cycle in Toronto.

The Star’s analysis comes amid a wave of cyclist and pedestrian deaths on city streets as the city is implementing its Vision Zero plan, a push to reduce traffic fatalities to zero by 2021.

“Based on the information you’ve presented to us about the Bay-Richmond intersection, the Mayor will be following up with city staff about the Star’s findings and asking what modifications could be made to encourage more people to use it correctly,” Don Peat, the mayor’s spokesperson, wrote in an email to the Star.

How it’s supposed to work

Richmond St. is a one-way street with a “cycle track,” a protected bike lane that physically separates cars from bikes using bollards and planters.

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Few cyclists or drivers navigate the intersection of Richmond and Bay Sts. correctly: In t Star saw 66 per cent of cyclists — including the three seen here near the curb — incorr when going straight. Meanwhile, the vast majority of right-turning drivers — like this c cyclists from passing safely on the drivers side within the painted area. (RANDY RISLIN STAR)

“The overall objective of the design of the Richmond-Bay intersection was to clearly define expectations for both cyclists and drivers and to reduce conflicts between right turning drivers and through cyclists,” said city spokesperson Cheryl San Juan.

The green paint, she said, is intended to make the cycle tracks more visible, and to make road users aware that they’re travelling into a “conflict area.”

In October 2017, the city changed the road markings in the painted area “to try and better define expectations for drivers and cyclists,” San Juan said.

Drivers turning right onto Bay St. should yield to cyclists, merge into the green bike lane at the dashed line and wait single file with right-turning bikes. Once in the green lane, drivers should hug the curb to leave room for cyclists to pass on the left.

Cyclists moving straight through the intersection should keep to the left side of the painted lane, in line with the chevron and bike symbol.

The purpose of these rules is to reduce conflicts between right-turning drivers and through cyclists.

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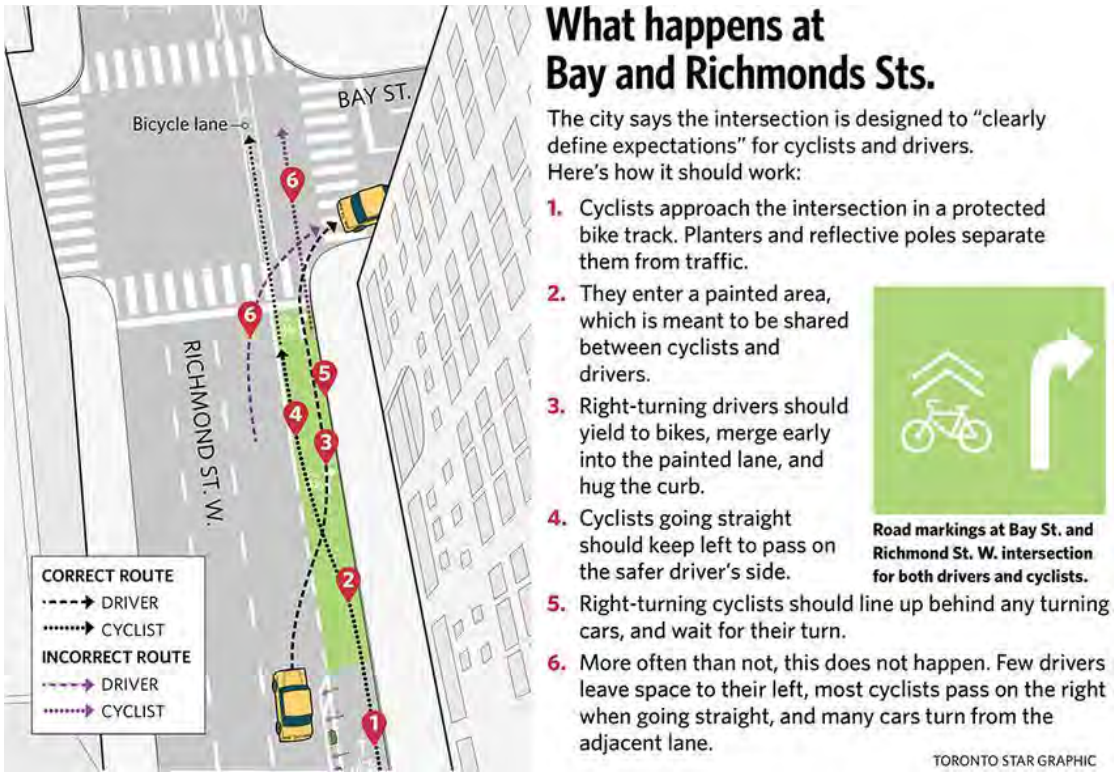

Here’s what we saw:

According to the Star’s analysis of the intersection, the majority of road users did not use the intersection correctly.

From 4 to 6 p.m. on Thursday, the Star saw 279 vehicles and 330 cyclists navigate the intersection incorrectly.

- Of 235 right-turning vehicles, just 27 turned from the correct side of the painted lane. The vast majority, 89 per cent, turned from the left side of the lane, blocking cyclists from using the

through lane.

- 31 turning drivers didn’t use the painted lane to turn at all, instead turning right from a centre lane.
- Of 624 cyclists that went straight through the intersection, just 214 — 34 per cent — kept left, following the design.
- 330 cyclists kept to the right side when going straight.

Those weren’t the only problems the Star saw:

- In two hours, we watched 92 red-light cycles at the intersection. Of those, 71 ended with a north-bound vehicle either blocking the box or stopped on the pedestrian crosswalk.

‘It has to be intuitive’

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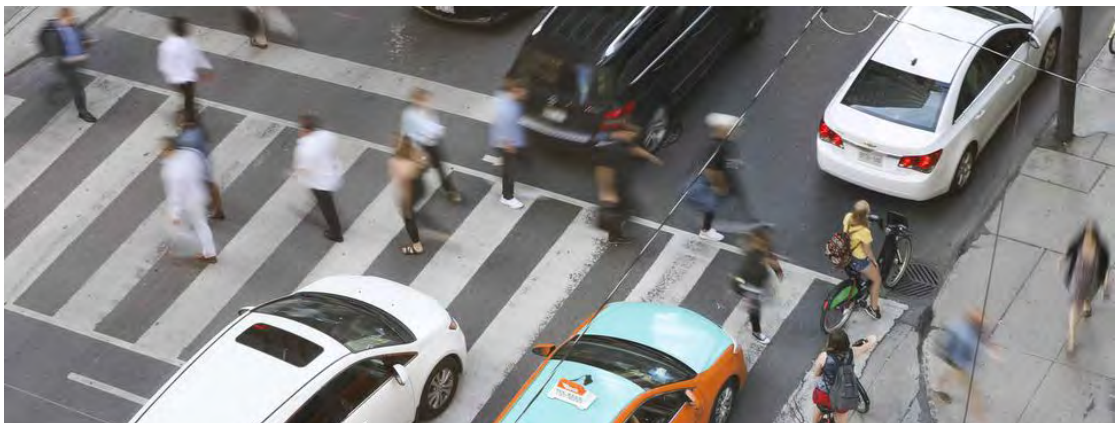
In response, Ken Greenberg, the former director of Urban Design and Architecture for the City of Toronto, visited the intersection. He called it “absolutely terrifying.”

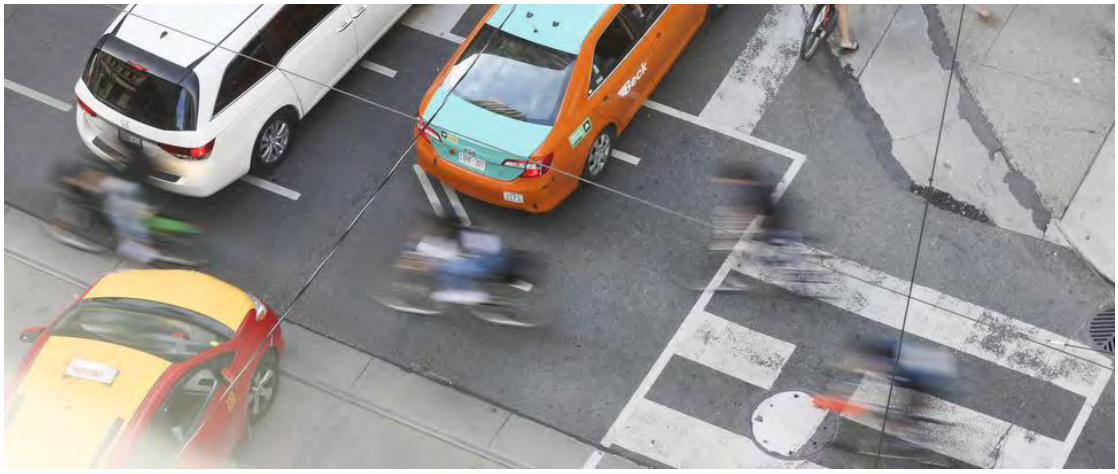
The Bay-Richmond intersection “is a microcosm of the kind of confusion that we’re seeing throughout the city,” said Greenberg, who argues for cycling infrastructure with consistent, easy to understand, design.

“It has to be intuitive,” Greenberg said. “People are not going to read a manual about how to go through the Bay-Richmond intersection.”

Shawn Dillon, manager of cycling infrastructure and programs for the City of Toronto, said he’s “quite pleased” by the number of cyclists the Star saw using the intersection correctly. “While obviously I would like to see more cyclists using the left side of the lane to go straight through, this is a dramatic improvement,” from last year, he said.

“I think it’s pretty clear now,” he said, adding that the finding on drivers are encouraging. “The fact that during your review period, 87 per cent of drivers are now turning from the bike/right turn lane is a significant improvement.”





The crosswalk on the north side of the intersection of Richmond and Bay Sts. was blocked by traffic more often than not, according to a Star analysis. (RANDY RISLING/TORONTO STAR)

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Cyclist Ann McBride, who works in the Annex and commutes from the east end, said she’s seen more drivers merge into the bike lane properly than they used to, but that “most people don’t really move over to the right of the lane.

“Ideally, if they did, you could pass them on the left and there’d be enough space,” McBride said. “But that doesn’t necessarily happen.”

Gerry Brown, who both drives and cycles in the city, said it’s hard to learn different rules for different intersections.

“You’ve got cyclist and car intersections where there’s a dashed line, ones where there’s a solid line, ones where there’s green paint, ones where there’s no green paint, ones where you go to the right, ones where you stay on the left,” he said.

Liz Sutherland, director of advocacy at Cycle Toronto, said that many cyclists will be uncomfortable keeping left, between two moving lanes of traffic. “If so many people are breaking the rules, I think you can chalk that up to the design.”

Jess Spieker, a spokesperson for the group Friends and Families for Safe Streets, said it’s no surprise cyclists tend to keep right. “The right probably seems and feels safer because you could very easily get knocked off your bike by somebody merging into the lane without looking,” she said “You have to have a whole lot of trust that someone’s doing a shoulder-check.”

Ontario law requires a one-metre distance between cyclists and vehicles.

“The way this shared lane is designed, it’s essentially impossible for drivers,” to leave this space Sutherland said. “So it’s almost as if the infrastructure contradicts the law.”

“If you follow the paint,” Spieker said, “the law will be broken.”

Dillon said he recognizes that not all cyclists will be comfortable on the left.

“Having more space would certainly make more people comfortable but with only 3.1 metres of space between the curb and the streetcar tracks, our options are limited,” he added. “During future road works we will certainly consider other options for further improvement.”

What can be done

Cities need consistent design language and signalling conventions, Greenberg said.

“You cannot expect people, every time they come to a different stretch of bike lane or intersection, to change their behaviour based on some different system,” he said. “It just doesn’t work. People have to know what to expect and it absolutely has to be consistent.”

Dillon agreed that a consistent design language is needed across the city. “But again, we need to get

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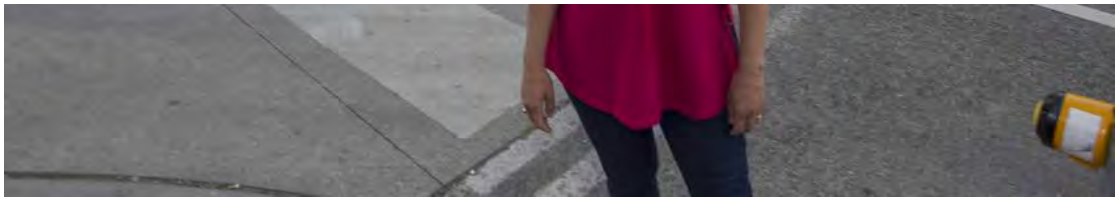
“We needed to try some different things to see what works and what doesn’t,” he said. “And absolutely as we move forward, we’re going to try and move toward a more standardized approach.”

Other groups are taking it upon themselves to review the effectiveness of city intersections.

In a recent road safety audit, the Harbord Village Residents’ Association reviewed several intersections in the neighbourhood, finding 45 per cent of drivers did not stop at stop signs; 35 per cent of vehicles did not stop at the crosswalk at Harbord and Robert Sts. while it was occupied; and vehicles were observed going the wrong way down one-way streets more than 50 times.

“We wanted to convert our complaining into action and arm ourselves with some data that we could then take to our councillor and to city council to address what appears to be a growing issue of safety on a roads,” said Andrea Poptsis, secretary of the association. “Not just for pedestrians, but all users.”



Andrea Poptsis, secretary of the Harbord Village Residents' Association. (RICK MADONIK/TORONTO STAR)

The mayor “has made it clear he is open to exploring any ideas to improve road safety and has sent a clear message to city staff to do everything possible, as quickly as possible, to make our streets safer,” Peat said.

“Beyond the physical changes to our roads that the City is making, the Mayor has been outspoken, and will continue to be outspoken, about the need for people in cars and trucks to change their

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This week, Tory will ask city council to direct an additional $13 million to road safety measures, bringing the city’s investment in Vision Zero to $100 million over five years, Peat said.

The city installed cycle tracks on Richmond, Adelaide, Simcoe and Peter Sts. as pilot projects. A 2014-2015 public consultation summary on the pilot found that the tracks were “highly supported” by stakeholders, who generally wanted the bike lanes to be permanent and extended.

The city will also consider “options for improvement” in the future, which could include a greater separation between cyclists and vehicles, changes to pavement markings and modifications to traffic signal timing.

Tamar Harris is a general assignment reporter based in Toronto. Follow her on Twitter: @tamarmharris

BICYCLE DUTCH

All about cycling in the Netherlands

State of the Art Bikeway Design, or is it?

See also part 2 of this story – And a 2014 post as well
An association of transportation experts of 15 major US cities (NACTO) recently published new guidelines for bicycle infrastructure. They claim they are 'innovative' and 'state of the art' and based on 'an extensive survey of expert knowledge, [and] existing guidelines from countries and cities around the world'. Some US planners do indeed visit the Netherlands to look at Dutch cycling infrastructure but looking at the new NACTO guidelines we doubt they have too. Just focusing at track widths we read on the NACTO website: "desired width for a cycle track should be 5 feet. In areas with high bicyclist volumes or uphill sections, the desired width should be 7 feet". This is actually very narrow, 5′ = 1.5 m and 7′ = 2.1 m. The standard width for one way cycle paths in the Netherlands is a minimum of 2.5 m (8′). Wider ones are not uncommon. For bidirectional use the minimum is 3.5 m (11 '), but most modern cycle paths are 4 m (13 ') or more. Although Dutch sources like CROW are quoted as references the Dutch standards were certainly not adopted. The biggest problems with these guidelines lie in the intersection designs. For instance, NACTO states "typical international best practice is a two-stage turn". We couldn't disagree more! The shown queuing boxes are a terrible solution. They not only slow cyclists down but put them in a very dangerous position in the middle of the junction where cyclists have to wait while motorized traffic passes on all sides. This is something that you will never see implemented in the Netherlands!

NACTO bike lane / turn lane design

The advised construction of 'bike lane / turn lane' is a way to maximize conflict between cyclists going straight on and drivers turning right. Again, this is something you very rarely see in the Netherlands. This type of design was tried, tested and deemed undesirable. The Dutch stopped building lanes like that a long time ago. A few do still exist (I know just one remaining junction approach like that in Utrecht) but they are phased out as soon as possible. Junctions like that seem more usual in Denmark. So what then is the Dutch solution for the junction approach? Where is a Dutch cyclist positioned on a junction and how do the Dutch create a safe left turn? The Dutch standard junction design solves all those issues at once. So you can ask: would this solution at all be possible in other countries? We believe it is and with the help of the NACTO drawings including their advised widths of car turn lanes we were able to create an animation of a Dutch style junction in the US situation.

If anything, this animation makes clear the space is there! But what's far more important: this type of junction eliminates conflict in turning and crossing movements far better than the advised solutions. So we question where NACTO looked for this "European best practice" which is actually nothing at all like what is implemented in any city in the Netherlands.

Standard Dutch turning lane / bike lane design

However, of course "Europe" is not one place, and to talk of copying "Europe" is rather meaningless. No other country has the same standards as the Netherlands does, nor does any other country have the same participation in cycling that the Netherlands does. As David would tell you: "copying 'best practice' from the UK, for instance, would get you no-where at all".

Later update
It has become clear that because details of the timing of traffic lights were omitted in the above post, some aspects of this design are causing confusion to some readers. With this design:

- Cyclists can always turn right on a red traffic light, and are protected from any interference from motorists as they do so. Motorists cannot make a right turn on red. Each cycle path is a minimum of 2.5 m wide, and conventionally they will expand in width at busy junctions, so there is space for cyclists to pass each other to make the maneuver.
- With or without cycling infrastructure, Dutch traffic lights avoid conflict in a way that those in other countries do not. Many traffic lights at a cross-roads in the UK and USA simply have two states. i.e. N->S and S->N are green simultaneously while W->E and E->W are red and vice-versa. Drivers can go straight on, left or right and those approaching in opposite directions will have to cross each others' paths. However, in the Netherlands it is normal for the turns to have their own traffic lights which have different timings so that conflict is avoided.
- Synchronization with cycle path traffic lights works in the same way, maximizing throughput while keeping danger at bay. When motorists have a green light for going straight ahead, cyclists also can ride straight ahead without right or left turning motorists having permission to cross their paths. However, when motorists are given a green light for a right turn this is separated in time from the cyclists' straight on green so that conflict is avoided.
- You may sometimes have to wait twice to make a left turn. However, you don't have to wait at all to make a right turn. On average, this cancels out and cyclists are not disadvantaged.
- At the other popular design of crossing, with simultaneous greens for cyclists, you still can make a right turn at any time, and only ever have to wait once to make a left turn. Cyclists then have an advantage over drivers.

In general, the timing of traffic lights does not disadvantage cyclists on the cycle path. In fact, in some instances, cyclists get a green light twice as frequently as drivers do. This is only possible to do if the modes are separated and have their own traffic lights.

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Picture update 18 April 2013; Photos of junctions that were designed following the principles explained in the video.

To answer questions about the details that have to do with crossing the extra traffic islands that emerge from this design for people with disabilities I have taken some pictures that explain this far better than words could.

Traffic light controlled junction with separated cycle path and dropped curbs for pedestrians.

Very large junction with separated carriage ways. Two way cycle path with traffic lights to cross the carriage ways. The pedestrians can cross separated from cyclists. There are dropped curbs which are easily passed even in a wheel chair or mobility scooter and the ribbed tiles and dotted tiles give tactile feedback to people with poor vision to safely cross this junction. The lights also give an audible signal to indicate stop or go. (ticks in different rhythms).

A junction between a minor and a major road. The minor road is to the right. The cycle path crosses this road uninterrupted, signalling the cycle path has priority. The triangles pointing in the direction of crossing traffic also indicate that. There will also be yield signs outside the picture to also indicate this. The pedestrian area (grey concrete tiles) has a level crossing. Where the street starts there are white tiles with ribs and dots to give tactile information of where the crossing starts and ends to people with limited vision. Where the car is there is a crossing to the left hand side of this picture. If the cyclists in the picture would want to turn left, they would do so crossing the street there. This design, together with the relatively low amount of traffic, makes that traffic lights are not needed here to guide traffic. Even though this is a major road that gives access to a neighbourhood. Cars turning right from the main carriage way into the street to the right have space to stop for cyclists going straight (who have priority) without blocking the main carriage way.

Detail of a roundabout with separated cycle infrastructure and a crossing for pedestrians. The curb from side walk to the level of the separated cycle track in red asphalt has a slope so people in wheel chairs, mobility scooters or with baby carriages can easily cross the area for cyclists. The traffic island that separates the cycle track from the main carriage ways has a lowered area for pedestrians to cross it. No curbs need to be taken. The while tiles with ribs and dots give tactile information to people with limited vision. The tiles guide them to the other side of the road. The zebra crossing is slightly raised so motor traffic needs to slow down to pass this zebra crossing. In the extreme left of this picture the circular cycle path is just visible. It goes all around the roundabout (which is not visible).

Detail of a T-junction with separated cycling infrastructure. (The crossing of the top of the T on one side.) All the curbs between the pedestrian areas and the areas for cyclists (red asphalt) and motor traffic (black asphalt) are dropped so they can be easily passed in a wheel chair, a mobility scooter or by people pushing a baby carriage.

Junction crossing for pedestrians and cyclists of a dual carriage way (2×1 lane). The grey area is for pedestrians.The smooth red asphalt is for cycling and the black asphalt is the domain of motor traffic. For visually impaired the white tiles give tactile information in the form of ribs and dots to where they can safely cross. The curbs are dropped for better access for people using wheel chairs, mobility scooters or prams (baby carriages). There are no lights at this particular junction.

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This post, written by me, was originally published on the blog 'A view from the cycle path' on Thursday, 7 April 2011

Original 28 comments: