

**MULTI-MODAL TRANSPORTATION BOARD**  
**THURSDAY, JANUARY 4, 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 **December 7, 2017**
5. **Public Hearing – Ruffner, Chapin and Bennaville Street Improvements**
6. **Crosswalk Materials Study**
7. **33477 Woodward – Request for 1 Hour Parking in Right-of-Way**
8. **Midvale - Request for No Parking 7:00 to 9:00am near NEXT**
9. Meeting Open to the Public for items not on the Agenda
10. Miscellaneous Communications
11. Next Meeting – **February 1, 2018**
12. 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 personas con discapacidad auditiva) un día 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, DECEMBER 7, 2017  
City Commission Room  
151 Martin Street, Birmingham, Michigan**

Minutes of the regular meeting of the City of Birmingham Multi-Modal Transportation Board held Thursday, December 7, 2017.

Chairperson Vionna Adams convened the meeting at 6 p.m.

**1. ROLL CALL**

**Present:** Board Members Lara Edwards, Johanna Slanga, Michael Surnow;  
Alternate Board Members Daniel Isaksen, Katie Schafer

**Absent:** Board Members Amy Folberg, Vice-Chairperson Andy Lawson, Daniel Rontal

**Administration:** Lauren Chapman, Asst. Planner  
Jana Ecker, Planning Director  
Austin Fletcher, Asst. City Engineer  
Scott Grewe, Police Dept. Commander  
Paul O'Meara, City Engineer

**Also Present:** Julie Kroll from Fleis & Vandenbrink "F&V"), Transportation Engineering Consultants and Joe Nichol from MKSK, Urban Design and Strategy

**2. INTRODUCTIONS**

Ms. Kroll introduced Joe Nichol of MKSK, who said he is looking forward to helping the board accomplish its goals.

**3. REVIEW AGENDA**

Ms. Ecker announced that the Crosswalk Materials Study is postponed to the January meeting.

**4. APPROVAL OF MINUTES, Multi-Modal Transportation Board ("MMTB") MEETING OF NOVEMBER 2, 2017**

**Motion by Ms. Edwards**

**Seconded by Ms. Slanga to approve the MMTB Minutes of November 2, 2017 as presented.**

**Motion carried, 6-0.**

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December 7, 2017

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### VOICE VOTE

Yeas: Edwards, Slanga, Adams, Surnow, Isaksen, Schafer

Nays: None

Absent: Folberg, Lawson, Rontal

### 5. **PUBLIC HEARING** **W. Maple Rd. Pedestrian Crossing Islands**

The public hearing opened at 6:07 p.m.

Mr. O'Meara provided background and brought up views of the locations. The most recent plans for the installation of pedestrian islands on W. Maple Rd. were reviewed by the MMTB at their meeting of November 2, 2017. The following locations were recommended:

- Lakepark Ave., at the existing marked crosswalk located at the traffic signal.
- East of Hawthorne Ave. Since there is no traffic signal, the Rectangular Rapid Flashing Beacon is proposed at the Hawthorne Ave. site only. This location is also endorsed by Parks and Recreation because it provides a nice connection from the path to the north, crossing and then linking up to the south down to the trail system.

Although not reflected in the MMTB resolution on November 2, 2017, discussion was also held about the Master Plan suggestion for the installation of a pedestrian island between Suffield Ave. and Pilgrim Ave. The question is whether or not it would really draw that much use by pedestrians.

The Chairperson called for public comments.

Ms. Pat Hayes, who lives on the corner of Pilgrim and Pine, was concerned about how the Fire Dept. would get through with the islands there and cars bumper to bumper. Ms. Ecker replied the Fire and Police Depts. had no concerns with the three proposed islands. These are small islands which will afford the opportunity for vehicles to move into the middle lane if a fire truck has to get through.

Mr. Surnow said he hasn't seen enough pedestrian traffic along Maple Rd. to justify doing anything. Ms. Ecker noted that the islands will also assist in calming traffic.

Ms. Gail Widdy, 165 Baldwin, said she sees people trying to cross Maple Rd. with dogs or kids and it is scary because the cars come by fast. So she can definitely see the value of the islands. Her experience is at the Rouge River crossing.

Mr. Don Byerlein, 316 Pilgrim, didn't think any crossing islands should be constructed. He thought they would cause a lot of accidents.

Mr. Joe Lieberman, who lives on the corner of Glenhurst and Brookwood, thought this is a horrible idea for all the reasons stated.

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Mr. Michael Clawson, 139 Pilgrim, supported the islands because drivers have been using the left hand turn lane to merge. However he was not sure how many people would use the island between Suffield and Pilgrim.

Ms. Pat Hayes spoke again to say it is very difficult for drivers to get across Maple Rd. from Arlington to go south because the traffic lights are not synchronized to turn red at the same time. Mr. O'Meara noted if the lights were red at the same time the existing 35 mph timing would not work.

Ms. Slanga asked for the Police Dept. to gather some general observations about 1) people using the left hand turn lane for merging; and 2) whether enough gaps are being created. Commander Grewe said they have been targeting people who are using the turn lane to merge. Also, it is always safer to make a right turn rather than a left.

Ms. Judy Dielman, 1060 N. Glenhurst, says she sees backups along Maple Rd. going east or west and it is very difficult if vehicles want to get across. Further, making a left turn is impossible because there is never a break.

Mr. Isaksen noted the needs of emergency vehicles have been considered and the Fire Dept. has given the green light on this project. He thought the board should trust their judgment on that. He has not seen a connection between how the islands make the problem of making a left turn worse. Those problems will continue to be there after the islands are installed.

Ms. Edwards thought they need to balance cost with traffic calming measures. She was definitely in favor of the crossing island that connects the park trails.

Ms. Schafer was in favor of the island between Suffield Ave. and Pilgrim Ave.

Chairperson Adams favored placing an island between Hawthorne Rd. and Baldwin Ave. connecting the trail system following the Rouge River corridor. She had no strong feelings on the other islands.

Mr. Surnow was fine with the Lakepark crossing island. Also he thought the island that connects the trails makes logical sense. However, he didn't see the need for an island between Suffield Ave. and Pilgrim Ave. because he isn't convinced there is enough pedestrian traffic to justify it. Maybe visit it at a later date if there is a demonstrated need for it.

Mr. Isaksen echoed Mr. Surnow's thoughts on this.

### **Motion by Ms. Slanga**

**Seconded by Ms. Schafer to recommend the installation of pedestrian islands on the W. Maple Rd. corridor at Hawthorne Ave. and Lakepark Ave. in accordance with the attached plans.**

**Motion carried, 6-0.**

## Multi-Modal Transportation Board Proceedings

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### VOICE VOTE

Yeas: Slanga, Schafer, Adams, Edward, Surnow, Isaksen

Nays: None

Absent: Folberg, Lawson, Rontal

Mr. O'Meara noted that based on the recommendation, staff will put together a cost estimate, and forward it to the City Commission for their final decision.

The public hearing closed at 6:40 p.m.

### 6. **2018 PAVING PROJECTS**

Mr. O'Meara recalled that at the meeting of November 2, 2017, staff reviewed the potential for Multi-Modal improvements on the three streets planned for reconstruction in 2018. The following briefly reviews the discussion from that meeting for each street, and what has been prepared in the meantime.

#### BENNAVILLE AVE – EDGEWOOD AVE. TO GRANT ST.

At the last meeting, it was noted that the existing street is 32 ft. wide, and that the City's standard today for a new local street of this nature is 26 ft. Reconstructing the road at the narrower width would reduce the length of the crosswalks at each end of the block, which would be an improvement for pedestrians.

Potential benefits include crosswalk lengths being reduced approximately 6 ft., wider parkways, and slower vehicle speeds.

Should the Multi-Modal Transportation Board favor a change to 26 ft., it is recommended that a public hearing be held to gain input from the residents.

#### RUFFNER AVE. – GRANT ST. TO WOODWARD AVE.

Ruffner Ave. was originally constructed at 28 ft. wide in the residential section, and 32 ft. wide in the commercial section. Staff is recommending reducing the width a small amount to 26 ft. for the residential section to help reduce the need for tree removals. The commercial section can be reconstructed at its current width, but 3 ft. bumpouts are recommended at the Woodward Ave. intersection.

A WB-40 vehicle was used for this analysis. The right turn onto Ruffner Ave. can be completed as shown with the proposed bumpout, even when a vehicle is parked on the south side of the street. On the north side, a bumpout of any larger size would cause a conflict. Since right turns are easier on the south corner, a larger bumpout could fit. Such a design would not be symmetrical, and it is unclear that such a proposal would be approved by the Michigan Dept. of Transportation ("MDOT").

Ms. Edwards suggested placing 3 ft. bumpouts at the beginning of the residential section to signal drivers that they have entered a neighborhood and they should slow down. Mr. O'Meara noted there is definitely a cut-through problem on this block. He thought they could go down to a 20 ft. wide road for just a short distance. Ms. Kroll indicated this is called a "gateway treatment."

Since changes are recommended on both streets, and since bumpouts may impact deliveries to the businesses, it is suggested that a public hearing be held. Notices would be sent to both the residents on Ruffner Ave., and the businesses on both blocks north and south of the street.

CHAPIN AVE – GRANT ST. TO WOODWARD AVE.

Chapin Ave. was originally constructed at 26 ft. wide on its westerly block, and 28 ft. at its two easterly blocks (both residential and commercial). Staff recommends building both residential blocks at 26 ft., in accordance with current standards, and in order to work with existing large trees. Since the commercial block of Chapin Ave. is already relatively narrow, it would remain at the current width, with no bumpouts proposed.

Right turns from a WB-40 are already in conflict with parked cars, given the space provided with this street width. No changes are recommended. As indicated by the truck turning diagram, a small bumpout could be installed on the south side. Similar to Ruffner Ave. above, such a design would not be symmetrical, and could be difficult to get approved by MDOT.

It is acknowledged that the changes suggested for Chapin Ave. are minor. However, since it is being discussed in conjunction with other nearby streets, it is suggested that all property owners in the area of this project be invited to the hearing as well, so that their input can be received.

**Motion by Ms. Slanga**

**Seconded by Ms. Edwards to schedule a public hearing at the regularly scheduled meeting of the MMTB of January 4, 2018 at 6 p.m. to consider the following multi-modal improvements as a part of the City's planned 2018 Local Street Paving Program:**

- A. Reconstructing Bennaville Ave. at 26 ft. wide section from Edgewood Ave. to Grant St.**
- B. Reconstructing the residential section of Ruffner Ave. at 26 ft. wide from Grant St. to the Woodward Ave. alley, maintaining the 32 ft. wide existing width on the commercial section adjacent to Woodward Ave., and adding a 3 ft. wide bumpout gateway treatment from residential to commercial with no 3 ft. wide bumpout changes at Woodward Ave.**
- C. Reconstructing the residential section of Chapin Ave. at 26 ft. wide, from Grant St. to the Woodward Ave. alley, with the addition of a 3 ft. wide bumpout gateway treatment as an option, and maintaining the 28 ft. wide street width on the commercial section adjacent to Woodward Ave.**

**Also to notify the adjacent impacted property owners accordingly, especially the options on Ruffner Ave. and Chapin Ave.**

**Motion carried, 6-0.**

VOICE VOTE

Yeas: Slanga, Edwards, Adams, Surnow, Isaksen, Schafer

Nays: None

Absent: Folberg, Lawson, Rontal

**7. CROSSWALK MATERIALS STUDY**

Postponed to the MMTB meeting of January 4, 2018.

**8. MEETING OPEN TO THE PUBLIC FOR ITEMS NOT ON THE AGENDA**  
(no public was present)

**9. MISCELLANEOUS COMMUNICATIONS**

Mr. O'Meara reported that at their last meeting the City Commission reviewed the S. Eton issue. A cost estimate has been received from F&V which is over \$1.6 million. So it is suggested that there would be an opportunity to try and get a Transportation Alternatives Program ("TAP") grant and the Commission liked that idea. Therefore the City will try to get a grant in March. Not knowing whether or not that would happen, the Commission asked Staff to look at whether there is a cheaper way to just do pavement markings to achieve some of the benefits of the redesign as possible at a reduced cost. They can be tried out for a while to see how the plan is working. Staff will bring that information to the Board next month.

**10. NEXT MEETING JANUARY 4, 2017 at 6 p.m.**

**11. ADJOURNMENT**

No further business being evident, the board members adjourned at 7:14 p.m.

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Jana Ecker, Planning Director

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Paul O'Meara, City Engineer



## MEMORANDUM

Engineering Dept.

**DATE:** December 27, 2017

**TO:** Multi-Modal Transportation Board

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

**SUBJECT:** 2018 Local Streets Paving Program  
Public Hearing

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At the meeting of December 6, 2017, the Multi-Modal Transportation Board (MMTB) reviewed the revised plans for design modifications to three local streets planned for reconstruction in 2018. Having reached agreement on the suggested improvements, the following resolution was passed:

To schedule a public hearing at the regularly scheduled meeting of the MMTB of January 4, 2018 at 6 p.m. to consider the following multi-modal improvements as a part of the City's planned 2018 Local Street Paving Program:

- A. Reconstructing Bennaville Ave. at a 26 ft. wide section from Edgewood Ave. to Grant St.
- B. Reconstructing the residential section of Ruffner Ave. at 26 ft. wide from Grant St. to the Woodward Ave. alley, maintaining the 32 ft. wide existing width on the commercial section adjacent to Woodward Ave., and adding a 3 ft. wide bumpout gateway treatment from residential to commercial with no 3 ft. wide bumpout changes at Woodward Ave.
- C. Reconstructing the residential section of Chapin Ave. at 26 ft. wide, from Grant St. to the Woodward Ave. alley, with the addition of a 3 ft. wide bumpout gateway treatment, and maintaining the 28 ft. wide street width on the commercial section adjacent to Woodward Ave.

Also, to notify the adjacent impacted property owners accordingly, especially the options on Ruffner Ave. and Chapin Ave.

Following the meeting, staff prepared and mailed the attached postcards to the owners on the three streets to alert them to the scheduled hearing. The postcards encourage them to review the City's website, where additional information and plans are now posted (the website information is included in this agenda package as well). In addition to the impacted homeowners, all of the Woodward Ave. commercial properties located on the blocks immediately north and south of Ruffner Ave. and Chapin Ave. were invited as well.

As of this writing, there have been no responses from any owners wishing to comment or ask questions relative to these proposals.

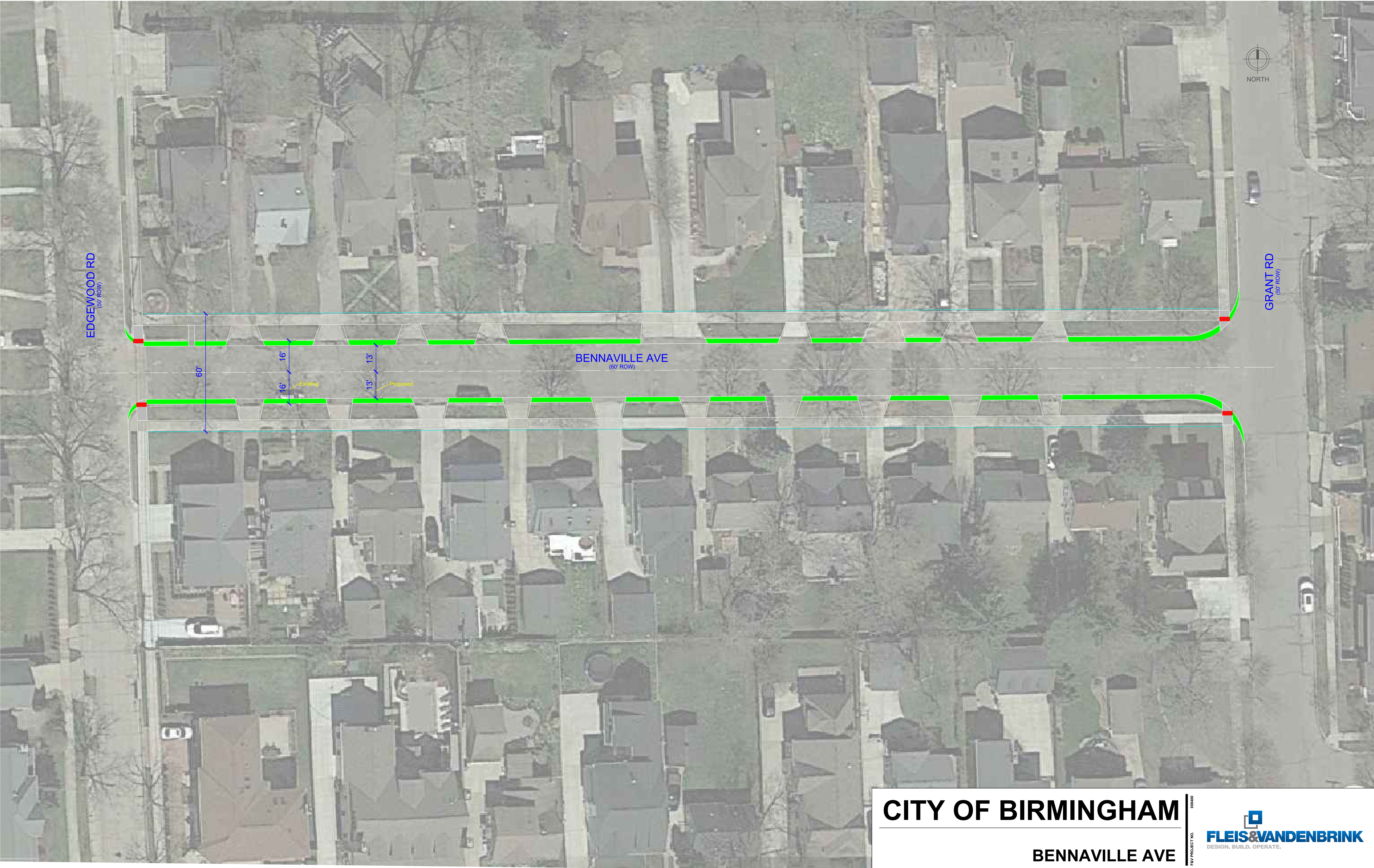


After receiving public comment, should the MMTB wish to proceed with the recommended designs, a suggested recommendation to the City Commission is provided below.

**SUGGESTED RECOMMENDATION:**

To recommend to the City Commission the following design modifications and multi-modal improvements to the local streets included in the 2018 Local Streets Paving Program:

1. Reconstruct Bennaville Ave. from Edgewood Ave. to Grant St. at 26 ft. wide, face to face of curb.
2. Reconstruct Ruffner Ave. and Chapin Ave. from Grant St. to the Woodward Ave. alley at 26 ft. wide, face to face of curb, and provide three foot wide curb extensions (bumpouts) on both sides of these streets just west of the intersection with the alley, to provide a residential gateway transition treatment.
3. Reconstruct Ruffner Ave. from the Woodward Ave. alley to Woodward Ave. at 32 ft. wide, face to face of curb, matching the existing pavement width.
4. Reconstruct Chapin Ave. from the Woodward Ave. alley to Woodward Ave. at 28 ft. wide, face to face of curb, matching the existing pavement width.



CITY OF BIRMINGHAM

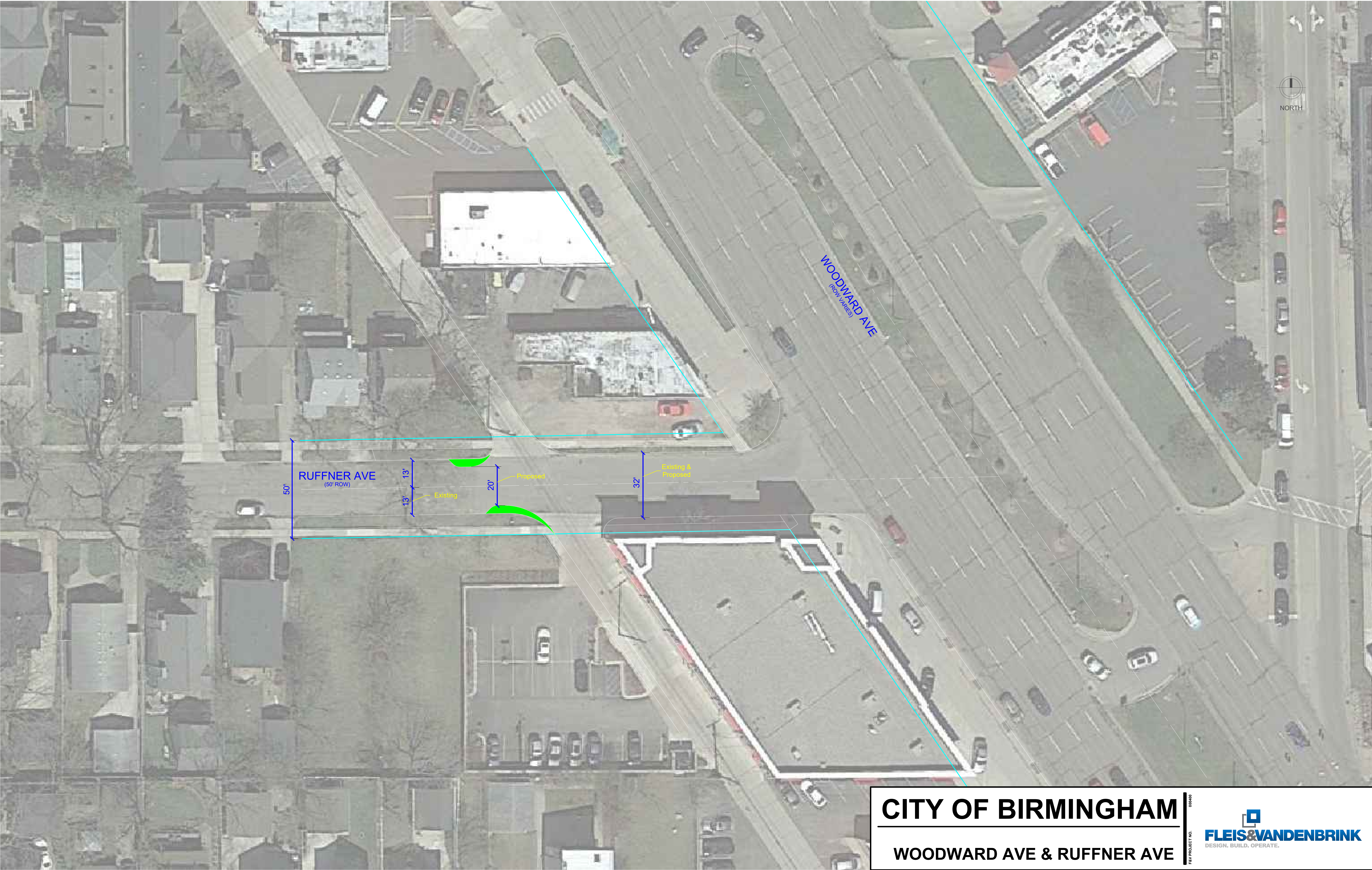
BENNAVILLE AVE

FAY PROJECT NO. 000400



**FLEIS & VANDENBRINK**  
DESIGN. BUILD. OPERATE.





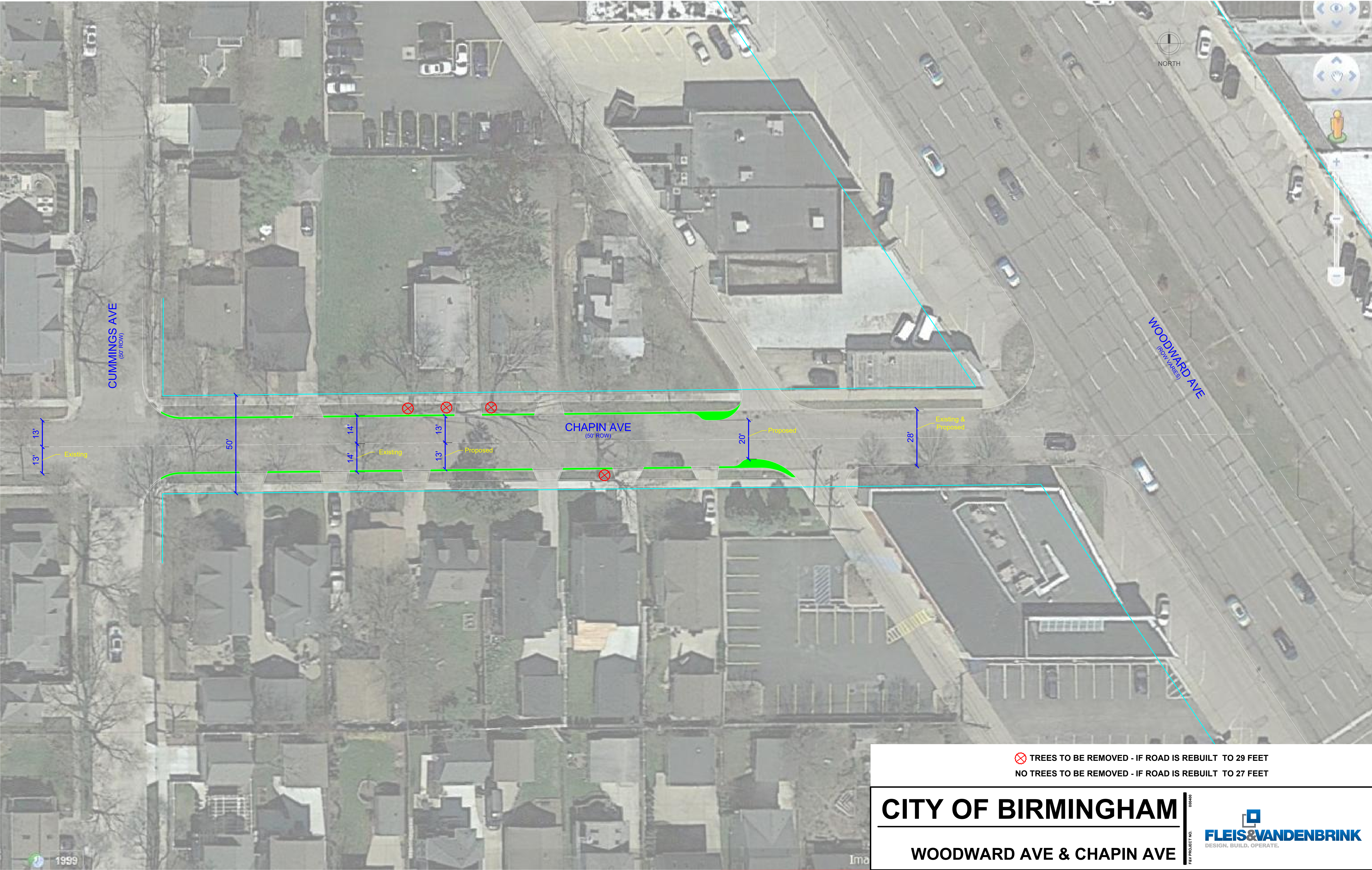
**CITY OF BIRMINGHAM**

**WOODWARD AVE & RUFFNER AVE**

FAY PROJECT NO. 000400

**FLEIS & VANDENBRINK**  
DESIGN. BUILD. OPERATE.





⊗ TREES TO BE REMOVED - IF ROAD IS REBUILT TO 29 FEET  
NO TREES TO BE REMOVED - IF ROAD IS REBUILT TO 27 FEET

**CITY OF BIRMINGHAM**

**WOODWARD AVE & CHAPIN AVE**

000400  
FAY PROJECT NO.  
**FLEIS&VANDENBRINK**  
DESIGN. BUILD. OPERATE.



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## Multi-Modal Transportation Board

The goal of the Multi-Modal Transportation Board shall be to assist in maintaining the safe and efficient movement of motorized and non-motorized vehicles and pedestrians on the streets and walkways of the City and to advise the City Commission on the implementation of the Multi-Modal Transportation Plan, including reviewing project phasing and budgeting. Board members shall be electors or property owners in the City.

If you have any questions or comments regarding the Multi-Modal Transportation Board, please contact Mark Clemence, Deputy Chief of Police at 248.530.1875 or Jana Ecker, City Planner at 248.530.1841.

Board Member		Term Expires
Vionna Adams	Member-at-large from different geographical areas of the City	03/24/2018
Lara Edwards	Member-at-large from different geographical areas of the City	03/24/2020
Andy Lawson	Pedestrian Advocate	03/24/2018
Michael Surnow	Bicycle Advocate Member	03/24/2019
Amy Folberg	Member-at-large from different geographical areas of the City	03/24/2020
Daniel Rontal	Mobility or Vision Impairment Experience/Expertise	03/24/2020
Johanna Slanga	Traffic-focused Education and/or Experience	03/24/2019
Katie Schafer	Alternate Member	10/27/2019
Daniel Isaksen	Alternate Member	10/27/2019

[View Multi-Modal Transportation Board Agendas and Meeting Minutes](#)

## MULTI-MODAL TRANSPORTATION BOARD

### PROPOSAL: 2018 LOCAL STREETS PAVING PROGRAM

PUBLIC HEARING SCHEDULED FOR THURSDAY, JANUARY 4, 2018, at 6 PM., Room 205, City Hall, at 151

[http://www.bhamgov.org/government/boards/MMTB\\_board.php](http://www.bhamgov.org/government/boards/MMTB_board.php)



Martin St. After 5 PM, please enter through the Police Dept. door located on Pierce St.

As part of its ongoing effort to maintain streets, the City will be removing and replacing the 1940's era pavements on three of its local streets. The work is planned to occur from approximately July to November, 2018. The work will include upgrades to the water and sewer systems where necessary. In accordance with current policy, homeowners that need their sewer or water service lateral replaced in the right-of-way will have those pipelines replaced. The cost of this work will be special assessment charged to the benefitting property owner. If this issue applies to you, you will receive notice by US Mail at a later date. No special assessments will be charged relative to the cost of the paving, or the main line water and sewer improvements.

The following information is being provided to you relative to certain pavement design changes that are being considered. Your opinion is valued, and you are encouraged to provide input as described below after the detailed descriptions:

Bennaville Ave. – Edgewood Ave. to Grant St.

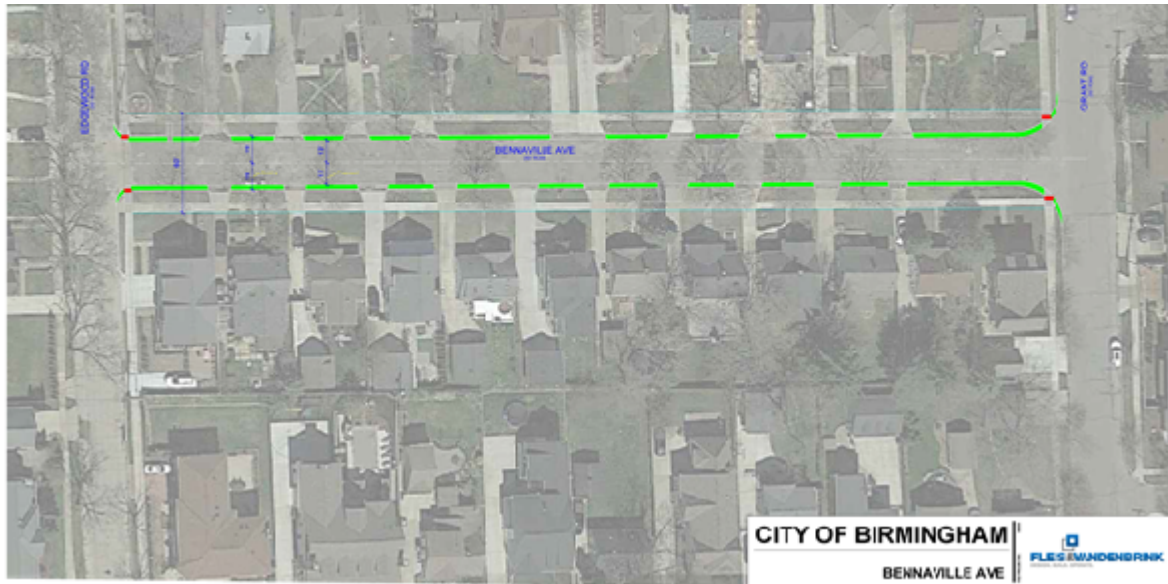
When Bennaville Ave. was paved previously, the road was constructed at 32 ft. wide, measured from curb face to curb face. Other streets in the area are typically narrower. The City's current standard road width for local streets is 26 ft., again measured from the faces of the curb. A 26 ft. wide road allows parking to remain legal on both sides of the street, and still allows one vehicle at a time to pass through the street. This is described as a yield condition where one vehicle has to yield to oncoming traffic if there are cars parked on both sides of the street. The width of the new road would match that currently built on Chapin Ave., just east of Grant St. The new pavement will be concrete, however, similar to that installed on Catalpa Dr. in 2016.

By reducing the width of the street, the following benefits are obtained:

- Additional green space for pedestrians and homeowners (the current distance of 10.5 ft. from the sidewalk to the back of the curb would expand to 13.5 ft.).
- Narrower streets tend to help keep traffic speeds down.
- Reduced crosswalk lengths will reduce the amount of time pedestrians are in the street.

An aerial view that demonstrates the proposed change is shown below.





### Ruffner Ave. – Grant St. to Woodward Ave.

#### **A. Grant St. to Woodward Ave. Alley (Residential Section ) –**

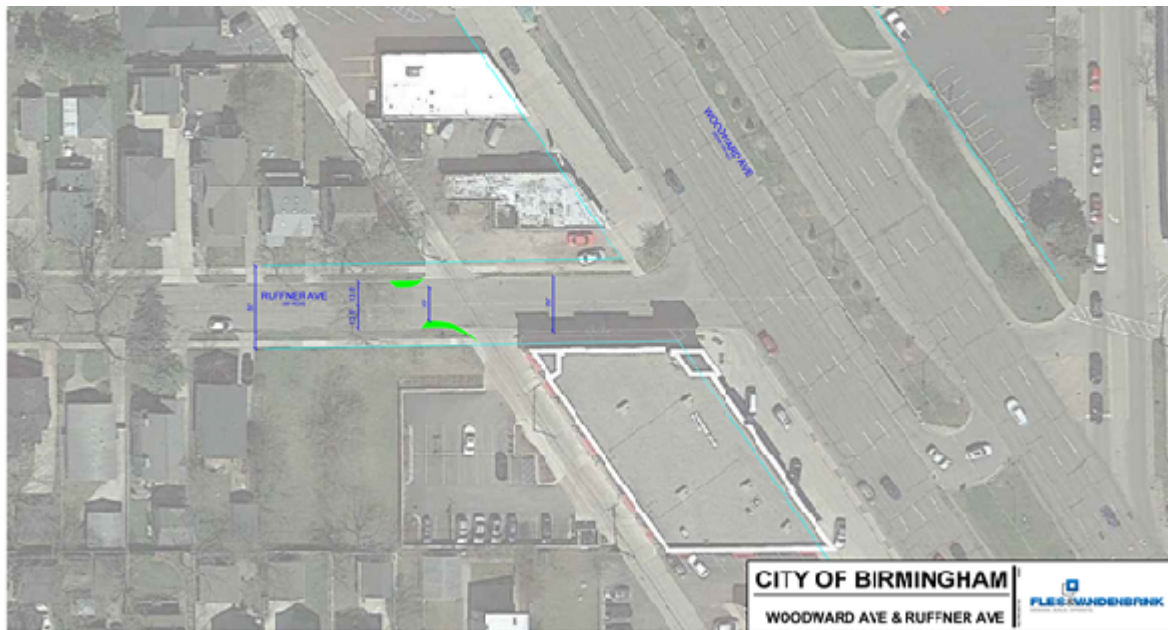
The current road width is 28 ft., measured from curb face to curb face. Currently, several mature trees are growing very close or even on top of the old curb. Removing and replacing the road at its current width would be impossible without removal of these trees, as noted above. Our current road width standard is 26 ft., also measured from the faces of the curb. Just moving the curb one foot on each side would provide the extra distance needed to reconstruct the road without removal of the trees (in most cases). If designed at 26 ft., it would be our intent to work around all existing trees. There are two exceptions to this:

1. Every tree will be reviewed by the City's forestry consultant. If they feel that the tree is already in decline, and excavating near the tree will cause its likely demise, the City may elect to remove before construction begins (a new tree would be installed after construction).
2. After removal of the road, as well as excavations for new pipelines, if it appears that the root structure of the tree has been compromised to the point that the tree is a safety hazard, the tree will be removed prior to completion of the project.

In both cases above, the City will replace the tree after the construction project, with the next City tree planting program. Both of these examples are relatively rare. It is our plan to work to save all trees if at all possible.

The Multi-Modal Transportation Board is also proposing to install curb projections (or bumpouts) that would narrow the road an additional three feet on each side just west of the intersection with the alley, where the residential section begins. The bumpouts would help encourage slower speeds, and provide a visual transition between the residential and commercial sections of this street. On-street parking would remain as is. Additional green space would be gained, as shown below:





## B. Woodward Ave. Alley to Woodward Ave. (Commercial Section)

The short section adjacent to the commercial area along Woodward Ave. was originally paved at 32 ft. wide, to better accommodate truck turns, as well as higher demand for parking. The Board reviewed various options on this section, but decided to recommend that it be reconstructed to match its current section. No proposed changes are currently being considered.

### Chapin Ave. – Grant St. to Woodward Ave.

## A. Grant St. to Woodward Ave. Alley

Currently, the block between Grant St. and Cummings St. is 26 ft. wide, measured from face to face of curb. Since this width matches the City's current standard, no changes are being considered. The block between Cummings St. and the intersection with the alley is currently paved two feet wider, at 28 ft. wide. Similar to the discussion above under the Ruffner Ave. section, attempting to reconstruct the road at this width would result in the removal of mature trees that are growing very close or on top of the curb. (Please refer to the Ruffner Ave. section for more information about the issues that come up with respect to working around trees.) For the same reasons presented on Ruffner Ave., it is recommended that this block be reconstructed at two feet narrower than it is currently, which would move the curbs one foot closer to the center of the road, and preserve most of the existing trees.

Also similar to Ruffner Ave., the Board is recommending the installation of curb projections (or bumpouts) that would narrow the road an additional three feet on each side just west of the intersection with the alley where the residential section begins. The bumpouts would help encourage slower speeds, and provide a visual

transition between the residential and commercial sections of this street. On-street parking would remain as is. Additional green space would be gained, as shown below:







The Multi-Modal Board wishes to receive input from area residents prior to making a final recommendation to the City Commission. If you would like your position known, but cannot attend the meeting, please forward written comment to the Engineering Dept. at [sdelpup@bhamgov.org](mailto:sdelpup@bhamgov.org) preferably no later than Wednesday December 27, 2017, for the Board's review. If you have questions, you may contact Paul O'Meara at the email address above, or at 248-530-1850.

**PUBLIC HEARING SCHEDULED FOR THURSDAY, DECEMBER 7, 2017, at 6 p.m.,** Room 205, City Hall, at 151 Martin St. After 5 p.m, please enter through the Police Dept. door located on Pierce St.

The City maintains a trail system following the Rouge River corridor. There is now an opportunity to install an improved, marked pedestrian crossing island at this location to allow pedestrians wishing to use the trail a safer option when crossing Maple Rd. This improvement was recommended in the City's Multi-Modal Transportation Master Plan. of the island at Hawthorne is provided. The island would be constructed in the left turn lane, in an area where the lane is not being used. Landscaping would be installed in the area to the

east of the crosswalk, as shown. Signs would be installed for each traffic direction, equipped with a pedestrian activated Rectangular Rapid Flashing Beacon, drawing attention to the crosswalk when pedestrians are present.

[http://www.bhamgov.org/government/boards/MMTB\\_board.php](http://www.bhamgov.org/government/boards/MMTB_board.php)

CITY OF BIRMINGHAM  
MULTI-MODAL TRANSPORTATION BOARD  
PUBLIC HEARING  
THURSDAY, JANUARY 4, 2018 AT 6 PM  
ROOM 205, MUNICIPAL BUILDING

**BENNAVILLE AVE. – EDGEWOOD DR. TO GRANT ST.**

The City of Birmingham plans to reconstruct the pavement on the above block in 2018. The current pavement is wider than most in the area. The Multi-Modal Transportation Board is studying a proposal to reduce the width to a total of 26 ft. wide, adding three feet of grass in the right-of-way to the 10.5 ft. already in front of each property. The Board would like public input before a final recommendation is made to the City Commission. Please see the Multi-Modal Transportation Board page at [www.bhamgov.org](http://www.bhamgov.org) for more information and illustrations.

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MULTI-MODAL TRANSPORTATION BOARD  
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Engineering Department  
City of Birmingham  
151 Martin  
Birmingham, MI 48009

«SIDWELL»  
«NAME»  
«ADDRESS»  
«CITY», «STATE» «ZIP\_CODE»

Engineering Department  
City of Birmingham  
151 Martin  
Birmingham, MI 48009

«Next Record»  
«SIDWELL»  
«NAME»  
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CITY OF BIRMINGHAM  
MULTI-MODAL TRANSPORTATION BOARD  
PUBLIC HEARING  
THURSDAY, JANUARY 4, 2018 AT 6 PM  
ROOM 205, MUNICIPAL BUILDING

**RUFFNER AVE. – GRANT ST. TO WOODWARD AVE**

The City of Birmingham plans to reconstruct the pavement on the above block in 2018. The Multi-Modal Transportation Board is studying a proposal to add a three foot wide curb projection on each side of the road, just west of the intersection with the alley west of Woodward Ave. The Board would like public input before a final recommendation is made to the City Commission. Please see the Multi-Modal Transportation Board page at [www.bhamgov.org](http://www.bhamgov.org) for more information and an illustration.

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MULTI-MODAL TRANSPORTATION BOARD  
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ROOM 205, MUNICIPAL BUILDING

**RUFFNER AVE. – GRANT ST. TO WOODWARD AVE**

The City of Birmingham plans to reconstruct the pavement on the above block in 2018. The Multi-Modal Transportation Board is studying a proposal to add a three foot wide curb projection on each side of the road, just west of the intersection with the alley west of Woodward Ave. The Board would like public input before a final recommendation is made to the City Commission. Please see the Multi-Modal Transportation Board page at [www.bhamgov.org](http://www.bhamgov.org) for more information and an illustration.

Engineering Department  
City of Birmingham  
151 Martin  
Birmingham, MI 48009

«SIDWELL»  
«NAME»  
«ADDRESS»  
«CITY», «STATE» «ZIP\_CODE»

Engineering Department  
City of Birmingham  
151 Martin  
Birmingham, MI 48009

«Next Record»  
«SIDWELL»  
«NAME»  
«ADDRESS»  
«CITY», «STATE» «ZIP\_CODE»

CITY OF BIRMINGHAM  
MULTI-MODAL TRANSPORTATION BOARD  
PUBLIC HEARING  
THURSDAY, JANUARY 4, 2018 AT 6 PM  
ROOM 205, MUNICIPAL BUILDING

**CHAPIN AVE. – GRANT ST. TO WOODWARD AVE**

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Engineering Department  
City of Birmingham  
151 Martin  
Birmingham, MI 48009

«SIDWELL»  
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Engineering Department  
City of Birmingham  
151 Martin  
Birmingham, MI 48009

«Next Record»  
«SIDWELL»  
«NAME»  
«ADDRESS»  
«CITY», «STATE» «ZIP\_CODE»



## MEMORANDUM

Engineering Department  
Planning Department  
Police Department

**DATE:** December 1, 2017

**TO:** Multi-Modal Transportation Board

**FROM:** Lauren Chapman, Assistant Planner

**APPROVED:** Jana L. Ecker, Planning Director  
Commander Scott Grewe, Police Department  
Paul O'Meara, City Engineer

**SUBJECT:** Crosswalk Pavement Markings - Material Options

At the February 27, 2017 meeting the City Commission voted to adopt the following standard policy for the design of all future crosswalk pavement markings in the City of Birmingham:

All new painted crosswalks installed shall be of the continental style, as outlined on MDOT Detail Sheet PAVE-945-C, Sheet 3 of 3, with the exception that all painted bars shall be 24 inches wide spaced as close to 24 inches apart as possible. Crosswalk widths shall be installed as follows:

**On Major Streets within the Central Business District, Triangle District, Rail District, or Adjacent to Schools:**

- Total width of the crosswalk shall be 12 to 14 feet wide. Crosswalks at the upper width limit may be installed when traffic signals are present.
- The following shall be considered Major Streets (within the specific districts noted) for the purposes of this standard:

Woodward Ave.

Oakland Blvd.

Old Woodward Ave.

Chester St.

Maple Rd.

Brown St.

Southfield Rd.

S. Eton Rd.

Adams Rd.

E. Lincoln Ave.



**On Local Streets within the Central Business District, Triangle District, Rail District, or Adjacent to Schools:**

- Total width of the crosswalk shall be 8 feet wide, unless the adjacent sidewalk main walking path is wider, at which point it shall be widened to match the main walking path width.

**At All Other Locations:**

- Total width of the crosswalk shall be 6 feet wide.

Over the next several months the MMTB began discussing pavement marking material choices. After much discussion, at the September 9<sup>th</sup> 2017 meeting the Multi-Modal Transportation Board (MMTB) recommended:

“To use paint on all non-major street crosswalks. Use paint on all major streets that are not going to be completely re-built; but when those major street crosswalks are being re-paved and re-built all markings will be grooved and filled with thermoplastic. Re-evaluate annually with the thermoplastics that are applied to make sure they are truly living up to their suggested retail life span.”

This memo is intended to inform the board of the further research that has been conducted by City staff during attempts to find a specification for the new thermoplastic standard to be used in bidding documents.

**Overview**

Staff from the Planning and Police Departments contacted a variety of contractors and product manufacturers and visited the City of Ann Arbor. These actions provided further insight on the previously recommended material and other pavement marking material options. Further research was conducted into paint, thermoplastic, polyurea and a newer material, HPS-8. Numerous contractors, a manufacturer, and the City of Ann Arbor all found HPS-8 to be a superior product and stated that thermoplastic does not bind well to concrete and that polyurea is a dependable material for both asphalt and concrete surfaces. Polyurea was the top choice of the MMTB originally but the board selected thermoplastic because polyurea was more expensive. However, further research has found that the cost differential between polyurea and thermoplastic was based on outdated information and that the two materials are much more similar in cost than originally reported.

**Paint Pavement Marking**



Paint pavement marking is the most widely used material in pavement markings in Canada and the United States.

Waterborne paints are favored over solvent based paints because they are environmentally friendly, and lack heavy metals and volatile organic compounds without affecting the service life. Moreover, waterborne paints don't have a strong solvent odor that may induce respiratory complaints from users.

Advantages and Disadvantages of Paints Pavement Marking: One of the major advantages of paint markings is that they are significantly cheaper than any other method; however, they can be worn away rapidly on high volume roadways, and consequently these roadways need to be restriped more than once a year.

### **Thermoplastic Pavement Marking**

Thermoplastics are similar to paint, and applied as a liquid, but they require higher application temperature to create the liquid state. Thermoplastic markings are installed in a molten state using either an extrusion or spraying method.



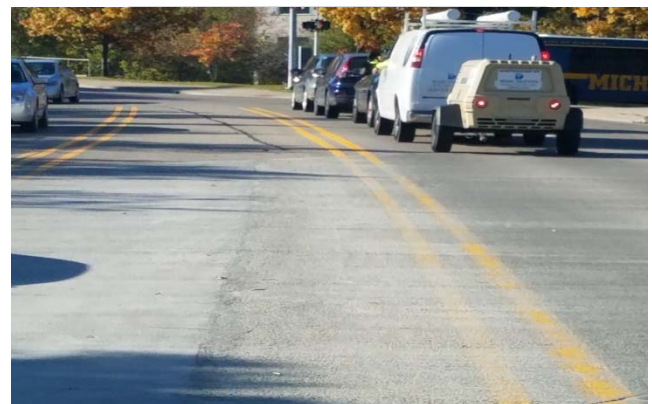
Pavement surface condition is an important factor that affects thermoplastic application because old pavement may not provide a sufficient chemical bond between asphalt and the thermoplastic marking material. Thermoplastics provide excellent performance when applied properly. The service life of thermoplastic marking paints normally ranges between forty eight months and eighty four months depending on different factors including application procedures, pavement type, traffic volume, snowplow activity and atmospheric conditions when placed.

### Advantages of Alkyd-based Thermoplastic

Thermoplastic has demonstrated a long service life on all traffic volume roads (low, medium, and high). They also have a high retroreflectivity level without using glass beads. In addition, thermoplastics can be applied in all weathering conditions. Finally, thermoplastic pavement markings have a very strong bond on asphalt surfaces.

### Disadvantages of Alkyd-based Thermoplastic

Thermoplastics are considered the most sensitive to surface preparation and atmospheric conditions during application. Concrete road surfaces needs coating with an epoxy primer before thermoplastic markings is installed. A study by the Florida Department of Transportation wrote "Thermoplastic markings are known to have poor adhesion on concrete surfaces. They lose their bond with the concrete and tend to flake off. Failure has been observed within six to eight months. The markings



appear to hold better on asphalt surfaces [...] Overall, thermoplastics performed better on asphalt than on concrete.”

### **Polyurea Pavement Marking**

Manufacturers have reported that polyurea has a service life of up to five years, but actual observed applications have a typical lifespan of three to four years. Polyurea markings are a sprayed, two-component durable pavement marking material. Various formulations of polyurea markings exist on the market. Polyurea pavement markings are used by the Michigan Department of Transportation (MDOT).

#### Advantages of Polyurea

Polyurea materials are marketed as durable pavement markings that provide exceptional color stability, resistance to abrasion, and adhesion to all pavement surfaces. Polyurea markings appear to be less sensitive to pavement surface moisture than thermoplastics and can be applied at temperatures as low as freezing. The material is resistant to UV degradation. The material offers some advantages in that it sets within 180 seconds, does not require any beads to be dropped on top of it, it lasts longer, has little waste and limited clean-up, and will harden when the pavement is wet.

#### Disadvantages of Polyurea Pavement Marking

One of the drawbacks associated with polyurea materials is that some must be applied by a special striping apparatus, which limits the number of contractors available to apply the material. Additionally, new material cannot be applied on top of old material. When polyurea markings need maintenance the material needs to be scraped off and new material applied.

### **HPS-8 Pavement Marking**

HPS-8 is a unique binder material made up of multiple polymers to give it very high durability, long term retroreflectivity, and fast cure, yet can be applied with standard thermoplastic equipment. HPS-8 is applied using the extrude method at thicknesses ranging from 60 to 120 mils.

HPS-8 can be surface applied onto asphalt or concrete roadways or inlaid for longer service life and is engineered for durable long line usage even in extreme conditions. HPS-8 is resistant to snow plow damage and provides superior long life retroreflectivity.



### Advantages of HPS-8

Glass beads are intermixed into HPS-8 unlike thermoplastics where the beads are applied over the wet material, and thus result in extended retroreflectivity. A four year warranty is available for durability and retroreflectivity. Formulated for quick dry of <2 minutes at temperatures as low as 50 °F. HPS-8 is described as abrasion resistant and having a comparable durability to thermoplastic. HPS-8 is applied with the standard extrude thermoplastic equipment; hand liner or truck mount.



### Disadvantages of HPS-8 Pavement Marking

The material has not been on the market for long so promises of durability have not yet been thoroughly proven.

### **Cost Considerations**

The table below of cost was provided by Ennis-Flint a manufacturer of several pavement marking materials.

<b>Material</b>	<b>Price per LF 4"</b>	<b>Average Life</b>	<b>Cost / Year – LF 4"</b>
<b>Alkyd Thermoplastic</b>	.28	4 Years	.07
<b>Polyurea</b>	.24	4 Years	.06
<b>HPS-8</b>	.68	8 Years	.085

### **Observations from Ann Arbor**

Ann Arbor uses three types of pavement marking materials for crosswalks, thermoplastic, HPS-8 and polyurea. Ann Arbor prefers thermoplastic on asphalt because it is easier to maintain than polyurea. After the initial installation, the city is able to use a different thermoplastic made for maintenance, and spray it on top of the existing markings. When the thermoplastic is layered it actually has better retroreflectivity than it did for initial application. This is because new glass beads are exposed as the material wears down. Ann Arbor prefers to use polyurea on concrete. When polyurea needs to be maintained the old marking needs to be scraped off. Ann Arbor staff said that the process made the material less cost effective on asphalt. Ann Arbor has not always recessed road marking, but is beginning to do that more.

### **Summary**

Crosswalk markings and other transverse markings are required to be retroreflective, but are not subject to minimum levels. Despite not having a required minimum, all of the marking

options that are up for consideration meet the highest minimum level that is required for longitudinal markings (250 mcd/m<sup>2</sup>/lux).

- **Waterborne Paint**
  - Average estimated lifespan: 1 year
  - Cheapest option
  - Must be reapplied annually
- **Alkyd Thermoplastic**
  - Average estimated lifespan: 3-4 years
  - Easy reapplication
  - Good for asphalt
  - Retroreflectivity increases when new material is applied on top of old material
  - Not recommended for concrete
- **Polyurea**
  - Average estimated lifespan: 4-6 years
  - Established material
  - Used by MDOT
  - Recommended by Ann Arbor for concrete
  - Must be scraped off for reapplication
- **HPS-8**
  - Average estimated lifespan: 6-8 years
  - Newer material
  - Works better on asphalt than concrete
  - Recommended by contractor and manufacturer
  - Recommended by Ann Arbor

Thermoplastic is no longer recommended for major streets uniformly because it drastically underperforms on concrete. Paint continues to be recommended on other streets because it is the cheapest material as far as quotes are concerned. Paint is not recommended on major streets because it needs to be restriped at least once a year.

#### **SUGGESTED RECOMMENDATION:**

**OPTION 1:** Polyurea on all major 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 may be used for crosswalks adjacent to schools.

**OPTION 2:** Polyurea on all major concrete streets and alkyd thermoplastic 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 thermoplastic may be used for crosswalks adjacent to schools.

**OPTION 3:** 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.



## MEMORANDUM

Police Department

**DATE:** December 11, 2017

**TO:** Multi-Modal Transportation Board

**FROM:** Jana L. Ecker, Planning Director  
Cmdr. Scott Grewe, Police Department  
Paul T. O'Meara, City Engineer

**SUBJECT:** Parking in MDOT right-of-way near 33477 Woodward

---

Duane Barbat of The Barbat Organization has requested a change in parking along the MDOT right of way in front of his business. Mr. Barbat stated several vehicles park daily in front of his business for long periods of time and are not visiting any of the business in the area.

Mr. Barbat believes drivers are using this area to carpool to town. He is requesting one hour parking for the six parking spots along the front of his business.

Mr. Barbat completed a petition and obtained signatures from all businesses located in the same building as The Barbat Organization. Three of the four businesses at the south end of the service drive disagreed and did not sign the petition, the fourth is vacant. These four business addresses are south of the requested area to change. 82% of occupied businesses, located along the same service drive, signed the petition in favor of one hour parking.

There are currently no parking restrictions in this area.

### SUGGESTED RESOLUTION:

To approve the installation of one hour parking in the service drive of southbound Woodward in front of 33495, 33483 and 33477 Woodward, for a total of six parking spaces.



33477 Woodward Avenue, Ste. 800  
Birmingham, MI 48009  
Office: (248) 914-0444  
Fax: (248) 282-1314  
barbatorganization.com

---

November 20, 2017

To Whom It May Concern,

We the undersigned business owners of 33477 (Suites 100-1000), 33483 and 33495 Woodward Ave. Birmingham, MI 48009, are requesting to change the 6 parking spaces located in the MDOT right of way to be restricted for 1-hour parking only. We are having a serious problem of people parking their vehicles for several hours at a time. Some of these vehicles are not even customers, we feel it is possible that there may be parking and then carpooling for the remainder of the day. We have attached a site plan highlighting the requested spaces.

Thank you,

A handwritten signature in black ink, appearing to read "Duane Barbat", written in a cursive style.

Duane Barbat










248-255-3565



# Woodward Parking Petition

## Woodward Parking Petition

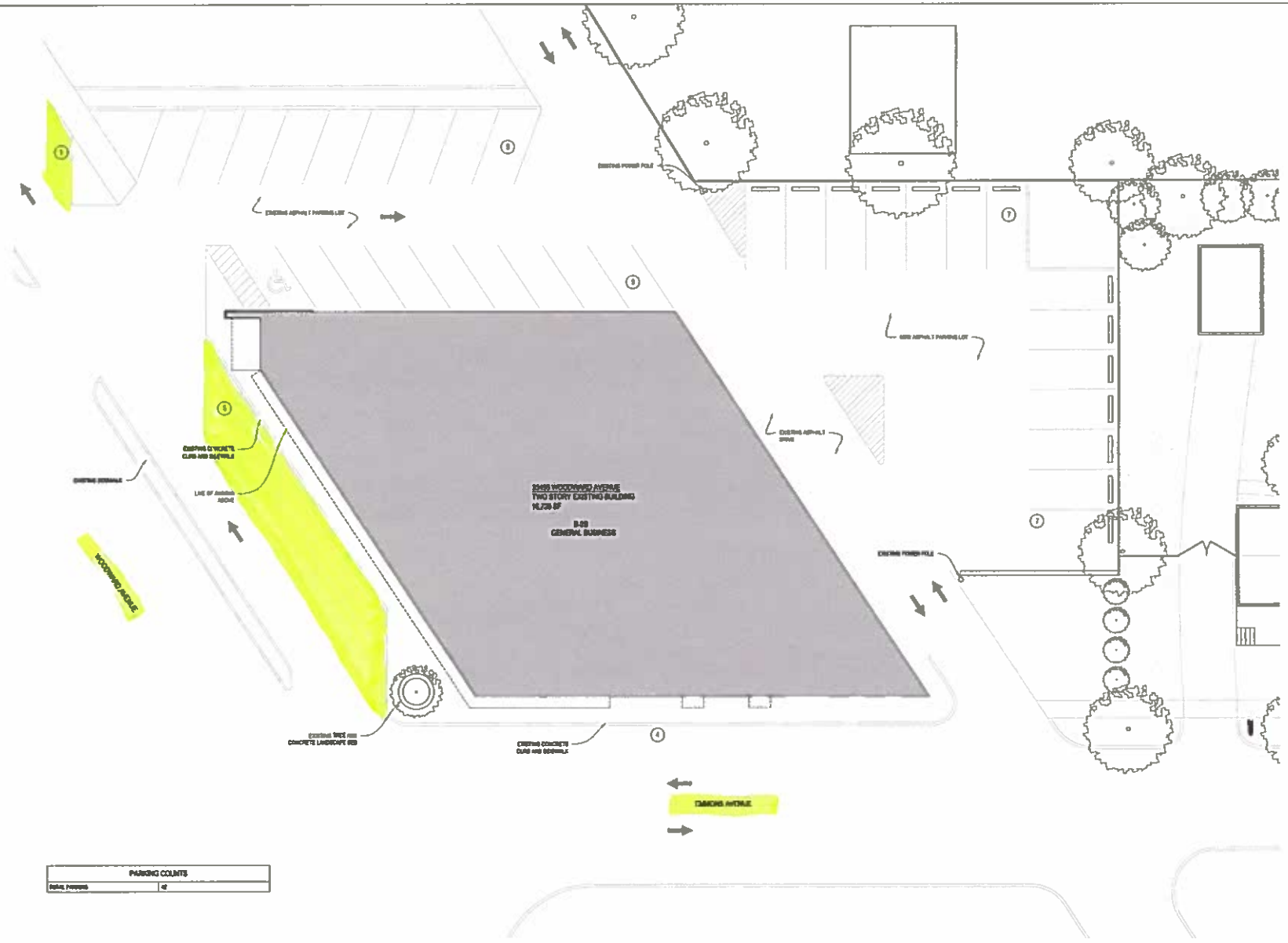
Petition to restrict the 6 parking spaces located in the MDOT right of way, to 1-hour parking only.

Printed Name	Signature	Address	Name of Business	Date
Patrick Johnson		33495 Woodward Ave.	U.S. Mattress	11-22-17
Shari Newman		33483 Woodward Ave.	Brightmont Academy	11-21-17.
Scott Barbat		33477 Woodward Ave. (Suite 100)	Union Energy	11-21-17
Diane Barbat		33477 Woodward Ave. (Suite 800)	The Barbat Organization	11-21-17
Nanci Katz		33477 Woodward Ave. (Suite 300)	Vintage Rose	11-24-17
Cathy Wheeler		33477 Woodward Ave. (Suite 400) 200 C.W.	Able Ideaz	11-22-17
Shawn Mamol		33477 Woodward Ave. (Suite 1000)	Merchant Tree	11-21-17
John Benetke		33477 Woodward Ave. (Suite 700)	The Benetke Group	11-24-17
Chris Barbat		33477 Woodward Ave (St 800)	Barbat, Newman, Sells, PLLC	11-27-17
Jeff Nelson		33437 Woodward ave	The Tux Shop.	
Shauna Whiteside		33423 Woodward ave	Amora Luxe	
Dan Winter		1359 Davis st.	Prime Commercial Mgt.	

Vacant

33401 Woodward ave.

Vacant



PARKING COUNTS	
Existing	Proposed
10	10

PROPOSED SITE PLAN  
SCALE 1/8"

RONALD ROMAN  
architects et al.  
378 E. First St. Birmingham, AL 35202  
404 253 1100 / 404 253 1101

Project: **WOODWARD & EMMONS**  
Bldg. out of an existing vacant space  
33488 Woodward Avenue, Birmingham, AL 35202

Sheet Date: \_\_\_\_\_  
Sheet Title: \_\_\_\_\_  
Sheet Number: \_\_\_\_\_

Revision: \_\_\_\_\_  
Date: \_\_\_\_\_

SP101





## MEMORANDUM

Police Department

**DATE:** December 14, 2017

**TO:** Multi-Modal Transportation Board

**FROM:** Jana L. Ecker, Planning Director  
Cmdr. Scott Grewe, Police Department  
Paul T. O'Meara, City Engineer

**SUBJECT:** Parking on Midvale near NEXT

---

Cris Braun, Executive Director of NEXT, contacted the police department regarding available parking. Mrs. Braun submitted a letter, which is attached, expressing the following concerns.

She stated all available street parking is taken up by Seaholm students who arrive around 7 a.m.. NEXT has continued to grow, offering a variety of programs for residents, bringing in approximately 1,500 visitors a week. NEXT has strategically scheduled programs in an attempt to minimize parking problems however available parking is still a problem. The age of the population NEXT serves presents additional concerns, close proximity spots are desired as mobility is often a factor.

Executive Director Braun is requesting "No Parking 7 a.m. to 9 a.m." Monday to Friday between Glenhurst and the western most driveway of their building. This would open up approximately 12 spaces on the road for staff to use on busy days, leaving more parking available in their lot for visitors. Mrs. Braun also stated this would free up parking on the street to be used by preschool parents when picking up their children when the lot is full from staff members.

### History

On the south side of Midvale, there has been "No Parking" from Cranbrook to Argyle since 1993. East of Argyle to Glenhurst there currently are no parking restrictions in place.

This request would allow parking anytime on the south side of Midvale from Argyle to the western most driveway of the preschool (approx. 4 spots), and no parking from the preschool driveway to Glenhurst between 7 a.m. and 9 a.m..

### SUGGESTED RESOLUTION:

To approve the installation of No Parking 7 a.m. to 9 a.m. (Monday to Friday) on the south side of Midvale from Glenhurst to the western most driveway of Midvale School.





*Your Place to Stay Active & Connected*

Cris Braun  
Executive Director  
CBraun@birmingham.k12.mi.us  
248.203.5270

---

Proudly serving the 50+ population of Birmingham, Bingham Farms, Beverly Hills, Franklin, and surrounding areas.

December 12, 2017

Commander Grewe  
Birmingham Police Department  
151 Martin Road  
Birmingham, MI 48012

Dear Commander Grewe,

Next is the non-profit 50-plus community center serving the Birmingham area, located behind Seaholm High School on Midvale Street in Birmingham. We are excited about our continued growth and reaching more Birmingham residents than ever before. Our recent study shows that a typical week for us brings in close to 1500 visits from the area.

The Midvale Center where we are located, is also home to the Birmingham Schools Preschool program. Between our two programs, parking has become a very difficult issue. Matters are made even worse because the available street parking up and down Midvale is totally taken by overflow Seaholm students who park starting at 7:00 in the morning and stay all day. The other surrounding streets are all marked residential permit parking only. We are strategically scheduling programs and staggering classes as best we can to try to minimize parking problems but that alone isn't enough. In addition, there is very limited parking for preschool parents when they need to pick up their children after school around 3:30 pm. This has become a significant safety issue.

The reason this is particularly difficult is the age of the population we serve. Parents with other young children in tow, and many Next members who are not able to park further away, navigate curbs, muddy easements or snow mounds, are finding it increasingly hazardous.

I am asking for your consideration to place "no parking signs from 7:00-9:00 am M-F" along the south side of Midvale from our west side parking lot to the corner of Midvale and Glenhurst. This will free up about 15 spaces where staff can park and ease some of the strain on the parking lot.

I appreciate your consideration. Please feel free to contact me should you have any questions.

Respectfully,                      Cris Braun







# Holiday Savings



**BUSINESS**

TOPICS ▾

AT&T APR 12

## Dallas to close, shrink and make streets two-way to keep AT&T downtown



Robert Wilonsky, City Columnist

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AT&T made the call in October to keep its headquarters in downtown Dallas by spending \$100 million on its revamped campus.

But the decision to stay in the city rather than flee to the suburbs was contingent upon several major requests, chief among them the significant alteration of some major downtown streets for a so-called "Discovery District" filled with shops, restaurants and other pedestrian-friendly amenities.

On Wednesday, the Dallas City Council agreed to give the communications company what it wants, including the closure of two streets, the narrowing of another and the conversion of two others to two-way traffic around AT&T's headquarters at Akard and Commerce streets.





## REAL ESTATE

**AT&T will spend \$100 million rebuilding its downtown Dallas campus**

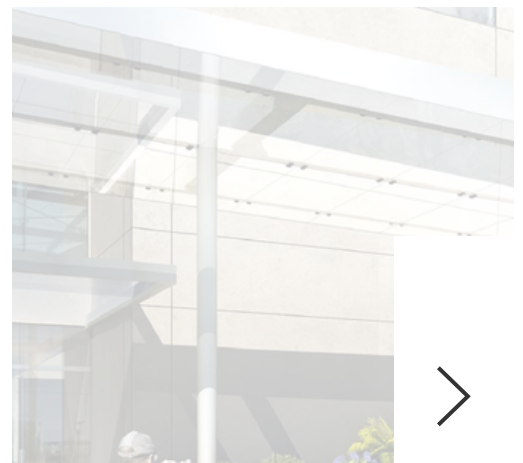
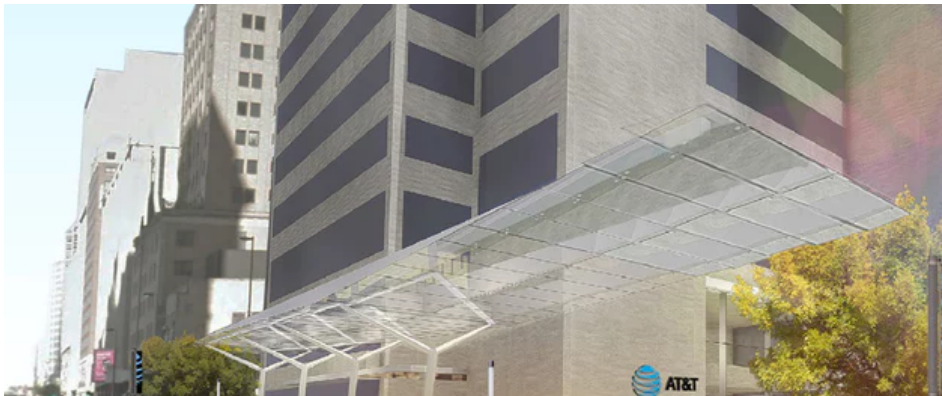
"Our chairman and employees love downtown," said Russ McFadden, who oversees AT&T's real estate transactions. "We believe the changes being proposed are critical to providing the campus we want to provide for our employees and the city."

All of the changes are significant, but the shrinking of Commerce Street will probably have the greatest impact. From Houston Street to Cesar Chavez Boulevard, the downtown thoroughfare will go on a so-called road diet, shrinking from four eastbound lanes to three.

Renderings provided by AT&T in October show a long glass canopy extending over the sidewalk and a new drop-off lane on the southern side of the street.

[Photo Gallery](#)

1/2



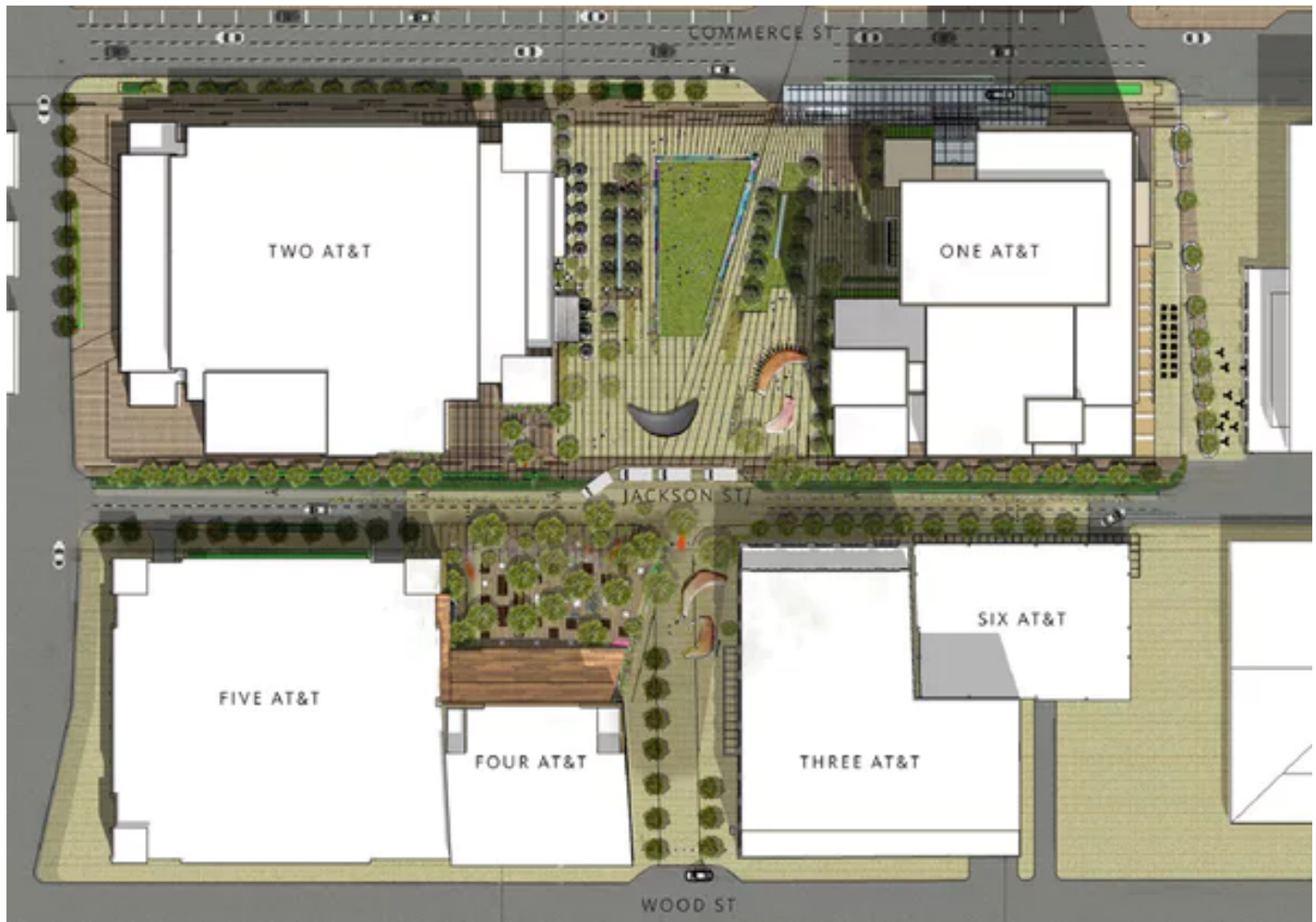




Commerce, said downtown council member Philip Kingston, "right now is kind of overburdened with traffic and not supportive of retail and pedestrians." With the shrinkage, he said, "you'll see that change in a big way."

But Kingston was not supportive of another major traffic change: the closing of about 550 feet of Jackson Street from Akard Street to Lane Street. AT&T at the moment owns six office towers and parking garages in the area, and it asked to close Jackson to create a true campus feel. Kingston had hoped to leave the one-way street open and turn it into a two-way.

But the council voted instead to close that portion of Jackson, per AT&T's request.



AT&T's "campus" once the streets are redone ((AT&T))

"We ought to be tickled to death they're going to want to stay down there," said Rickey Callahan, chair of the council's Economic Development Committee. "To have a true campus flavor, we need to close Jackson Street."

Other changes include: closing Akard Street between Jackson and Wood streets; turning Akard from a three-lane, one-way street into a two-lane, two-way between Wood and Young streets; and turning Wood from Griffin Street to Pearl Expressway from a three-lane, one-way street into a two-lane, two-way.

"We're grateful to Mayor Mike Rawlings and the Dallas City Council for their vision to improve downtown Dallas by supporting the AT&T Discovery District," said John Stephens, AT&T's chief financial officer. "We believe the Discovery District will be a welcome destination for future visitors, Dallas residents and downtown employees and bring multiple benefits to an area that's daily seeing positive changes for everyone."

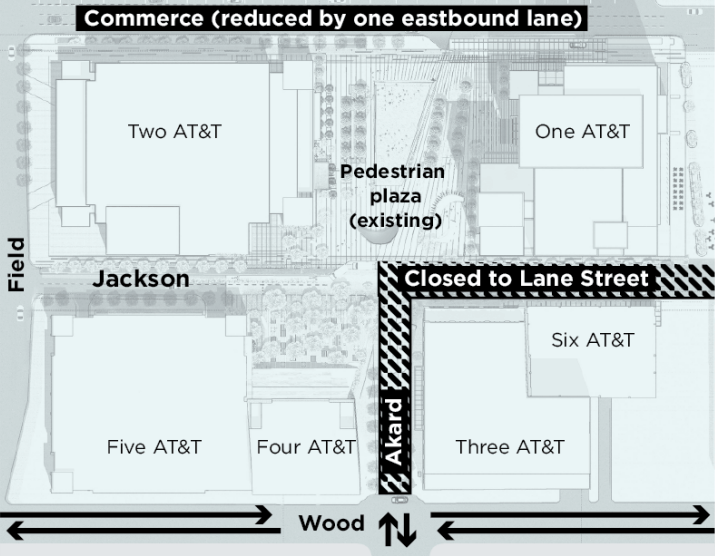
The redo is the product of a year's worth of discussions involving AT&T, City Hall, Downtown Dallas Inc., Dallas Area Rapid Transit and downtown property owners, businesses, schools and residents. City officials are also in discussions with AT&T about potential economic incentives, but those have yet to go before the council's Economic Development Committee.

"We do not take closing streets lightly," Kourtney Garrett, president and CEO of Downtown Dallas Inc., told the council, "but when taken as a whole, these proposed changes are greater than the sum of their parts."

### Downtown Dallas street changes

 Pedestrian-only streets

 Traffic directional changes



SOURCE: *Dallas Morning News* research

Staff Graphic

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# How Long Is Your LPI?



## Balancing Pedestrian Comfort and Traffic Impacts with an Elongated Leading Pedestrian Interval

BY RANDY DITTBERNER, P.E., PTOE, AND NHAN VU, P.E.



The Leading Pedestrian Interval (LPI) is an effective, low-cost method to improve pedestrian accommodations at signalized intersections. An LPI causes the Walk indication to appear before the green signal for parallel traffic, allowing pedestrians to start crossing a major street before conflicting vehicles begin to turn.

Several studies have shown that LPIs improve pedestrian safety. A study of three intersections in St. Petersburg, FL, USA found that LPIs reduced conflicts between crossing pedestrians and turning vehicles by 95 percent.<sup>1</sup> A study of 26 intersections in New York City, NY, USA showed that LPIs reduced crashes between pedestrians and turning vehicles by 28 percent.<sup>2</sup> An analysis of 10 intersections in State College, Pennsylvania showed that LPIs reduced pedestrian-vehicle crashes by 59 percent.<sup>3</sup>

### LPI Duration

*Manual on Uniform Traffic Control Devices (MUTCD)* guidance indicates that if used, an LPI “should be at least 3 seconds in duration, and should be timed to allow pedestrians to cross at least one lane of traffic or, in the case of a large corner radius, to travel far enough for pedestrians to establish their position ahead of the turning traffic before the turning traffic is released.”<sup>4</sup>

The *Urban Street Design Guide* recommends a minimum duration of 3 to 7 seconds, increased to as long as 10 seconds “where pedestrian volumes are high or the crossing distance is long.”<sup>5</sup>

Formulas have been developed to calculate the duration of an LPI, and they result in LPIs long enough for pedestrians to cross the first travel lane plus a parking lane, or to walk halfway across one direction of travel.<sup>6,7</sup>

New York City uses an alternative method for timing LPIs, providing at least 7 seconds but more when the signal cycle has additional time available.<sup>8</sup> Most pedestrians can clear the first lane in 7 seconds, but the longer duration provides additional benefit.

### The Four Conflicts

An LPI can help reduce pedestrian conflicts with both left- and right-turning motorists. Each crosswalk at a typical intersection could have four such conflicts when the side streets operate concurrently, based on the vehicular turning movement and the direction of pedestrian travel. The conflicts for one crosswalk are shown in Figure 1.

An LPI can help address all four conflicts, but not always equally. Conflicts with right-turning motorists (conflicts #1 and #4) are difficult to control where right turns on red (RTOR) are permitted. RTOR motorists are often looking to their left for a

gap in traffic, not to their right for pedestrians. A 2008 study showed that the benefits of an LPI in downtown environments are not necessarily transferrable to suburban environments where RTOR are permitted.<sup>9</sup>

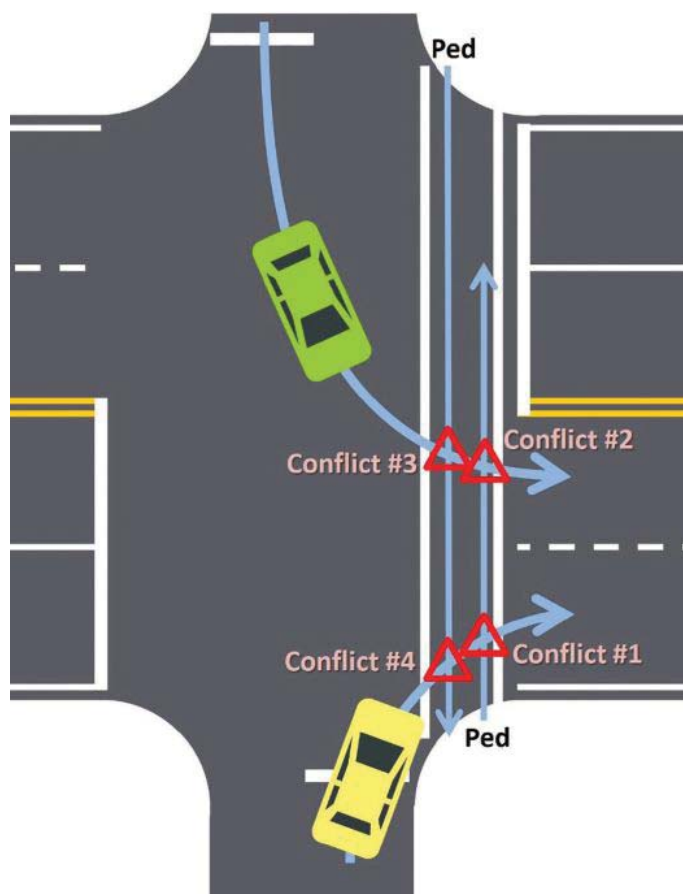


Figure 1: Conflicts in one crosswalk potentially resolvable by an LPI.

LPIs have a greater ability to control conflicts with permissive left turns (conflicts #2 and #3) because there are no turns on red. From a pedestrian’s perspective, an LPI should be long enough to help mitigate all four conflicts by allowing pedestrians to cross at least to the point of conflict before conflicting traffic is released.

The “desirable LPI duration,” then, can be calculated as:

$$D_c = X_c \div V$$

where:

$D_c$  = Desirable LPI duration for conflict # $c$ , in seconds

$X_c$  = Walking distance from the curb to the point of conflict # $c$ , in feet

$V$  = Walking speed, in feet per second. A speed of 3.5 feet per second is consistent with MUTCD signal timing guidance.

The critical conflict is usually the one with the largest  $D$ , but conflicts with low-volume turning movements can be neglected if vehicle-pedestrian interactions are rare.

## Potential LPI Duration

Where pedestrians cross a wide street, the time needed for the pedestrian phase is often longer than the time needed for the concurrent vehicular phase. The difference between these times can be considered “potential LPI duration,” calculated as:

$$P_s = W - G_s$$

where:

$P_s$  = Potential LPI duration for signal timing plan  $s$ , in seconds

$W$  = Duration of the Walk plus Flashing Don't Walk (FDW), in seconds

$G_s$  = Green time for the concurrent vehicular phase in timing plan  $s$ , in seconds

Note:  $P_s$  should be reduced by the amount of time FDW and concurrent yellow appear together.

For example, consider an actuated-coordinated signal where the Walk plus FDW is 35 seconds but vehicular demand needs only 20 seconds of green time. In this case the signal is green 15 seconds longer than needed during cycles with a pedestrian call, so  $P = 15$  seconds.

An LPI could be set at some value equal to or less than  $P$  without affecting the vehicular green time on that phase. Every second that an LPI exceeds  $P$  requires that the vehicular green time on that phase or another phase be shortened by one second. If  $P$  is zero or less, the signal phase does not have any surplus time to allocate to an LPI. It could still be considered, but only after studying the impact to traffic and signal operations.

$P$  likely varies by time of day if the signal has more than one timing plan. Agencies may not want (or be able) to vary a crossing's LPI duration by time of day. If so,  $P$  should be determined for each timing plan, then an intersection's  $P$  could be chosen to balance

the benefits of the LPI with vehicular operations at different times of day.

## Elongated LPI

When an LPI appears, it usually causes all drivers on an approach, except those turning right on red, to wait longer for a green indication. However, pedestrians only benefit from delaying turning drivers. The delay other traffic experiences at an LPI provides no benefit. Agencies may choose to keep LPIs short to avoid holding back through traffic. (Alternatively, agencies such as New York City sometimes use a “split LPI” that avoids delay to the through movement using red arrows to prohibit conflicting turns during the LPI.<sup>10</sup>)

On approaches without through movements, an LPI only delays turning vehicles, the very vehicles that need to be delayed to provide pedestrian benefits. Such intersections are among the best candidates for an elongated LPI.

Consider the T-intersection in Figure 2. The missing leg eliminates conflicts #1 and #4, leaving only conflicts #2 and #3.

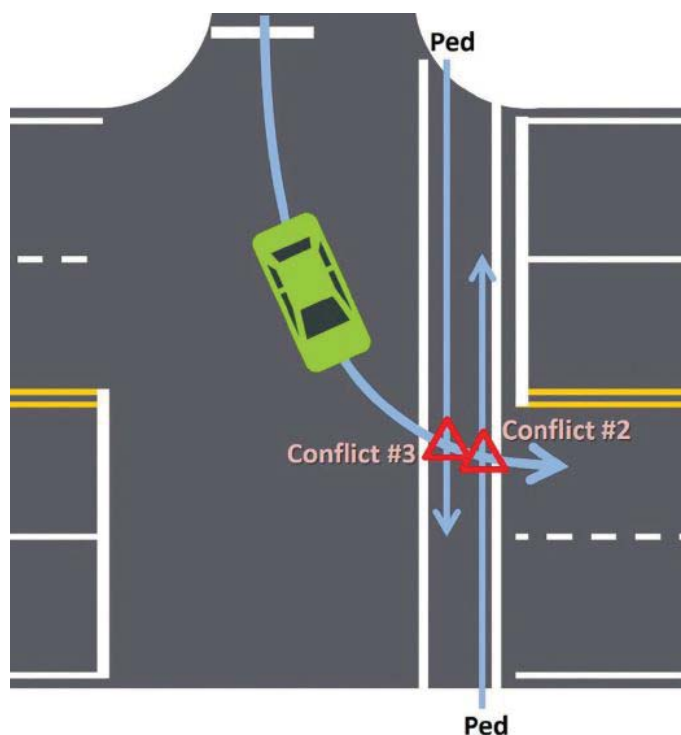


Figure 2: Conflicts in One Crosswalk at a T Intersection

An LPI for this crossing would delay only the left-turn movement from the stem of the T, as long as RTOR are permitted from the stem and have a dedicated approach lane. Since an LPI would only delay the left-turn movement, and this is the only movement that conflicts with pedestrians, the LPI duration could be set as follows:

- If  $D \leq P$ , the LPI should be set at  $D$ . Both conflicts #2 and #3 are mitigated fully with no reduction in vehicular green time. The start of the green for the concurrent left-turn movement is delayed by  $D$ , which will be noticeable by motorists, but once the green appears it will be long enough to serve all the demand.
- If  $D > P$ , the LPI should be set no less than  $P$ . Using an LPI of  $P$  would mitigate conflicts up to the point that signal operations are affected. The LPI could be longer than  $P$ , up to  $D$ , after evaluating operational impacts.

This example illustrates a case without any through traffic parallel to crossing pedestrians. Many four-leg intersections operate with low through volumes crossing the major street, and these intersections may also be suitable for elongated LPIs. Through traffic would observe a delay in the start of green, but if the through volume is low enough the benefit to pedestrians may be an acceptable tradeoff.

Elongated LPIs do not require elongated Walk intervals. Rather, the Walk indication should be its normal duration so the FDW can start as scheduled. As an LPI gets longer, it approaches an operation similar to an exclusive pedestrian phase (EPP), which allows pedestrians to cross the entire street while all traffic has a red indication. However, an elongated LPI offers some operational flexibility over an EPP:

- Even where an LPI is the desirable duration  $D$ , it requires less time than an MUTCD-compliant EPP. Among other reasons, pedestrian and vehicular change and clearance intervals can occur simultaneously with an LPI but not with an EPP.
- Where an EPP is provided, time for the pedestrian phase must be reserved in the cycle even when the phase is called only rarely. This can cause minimum intersection cycle lengths to increase, potentially affecting operations of nearby coordinated signals. Because LPI duration is flexible, it can be tailored to local needs.
- Although not required, EPPs often allow pedestrians to cross diagonally, increasing FDW time as much as 70 percent. Diagonal crossing is not an option with an LPI.

## The Virginia Experience

The Northern Region of the Virginia Department of Transportation (VDOT) operates about 1,400 traffic signals outside Washington, DC, USA in mostly suburban conditions. VDOT has implemented dozens of LPIs, mostly 7 seconds in duration, where pedestrians cross higher-volume major streets.

The adequacy of a 7-second duration was tested in 2012 at the intersection of West Ox Road and Post Forest Drive in Fairfax, Virginia (Figure 3). West Ox is a minor arterial with three lanes plus a left-turn lane in each direction. Post Forest is a major collector that ends at West Ox, but the fourth leg of the intersection is the driveway for the Fairfax County Animal Shelter. RTOR are permitted on all approaches.

The side streets are phased concurrently, with permissive left turns. However, since the Animal Shelter has minimal traffic, left-turning drivers from Post Forest are not accustomed to yielding to opposing through traffic. When actuated, the pedestrian signal provides a 7-second Walk and 27-second FDW.



Figure 3: West Ox Road and Post Forest Drive.

The Animal Shelter normally provides on-site parking, but renovations in 2012 temporarily required employees to park across West Ox and walk across the street. The renovations considerably increased the normally low pedestrian volume.

The shelter supervisor contacted VDOT because drivers turning left from Post Forest were routinely failing to yield to shelter employees crossing the street. VDOT staff met the supervisor on site and witnessed the problem, as a left-turner nearly hit them both. The intersection had a 7-second LPI, but this was not enough time for pedestrians walking toward the shelter to avoid conflict with westbound left-turners.

All four conflicts occur in this crosswalk, but conflicts #1 and #4 are minor because the Animal Shelter has such little traffic. Rather, conflict #3 is critical; this was confirmed from frequent employee comments.

In response, VDOT increased the LPI to 14 seconds, which helped but did not solve the problem. On closer study VDOT increased the LPI again, this time to 22 seconds, curing the crossing problem while prompting no complaints from drivers, even though the green indication for Post Forest was considerably delayed.

VDOT's experience at this intersection led to a larger effort to determine appropriate LPI duration. After looking more closely at the four conflicts at West Ox and Post Forest, it became clear why a 7- or 14-second LPI was inadequate. As shown in Table 1,  $D_3 = 20$  seconds at a speed  $V$  of 3.5 feet per second.

Table 1: Conflict Details at West Ox and Post Forest.

Conflict $c$	Pedestrian crossing distance $X$ to reach conflict point (feet)	Walking time to reach conflict point, $D_c$ (seconds)
1	19	5
2	42	12
3	69	20
4	90	26

The signal operates using one of eight timing plans according to the time of day and day of week. For each timing plan  $s$ , Table 2 computes  $P_s$ .

In seven of the eight timing plans,  $W > G$ , leaving  $P$  as large as 22 seconds. Only during the weekday PM peak period is  $G > W$ . However, field observations showed that although the phase can extend up to 43 seconds to serve spikes in demand, the actual split is rarely longer than 20 seconds.

An intersection  $P$  of 13 seconds would have avoided any impacts to vehicular operation, but would not (and did not, in the field) sufficiently guard against conflict #3. An intersection  $P$  of 20 seconds would have avoided any impact to traffic operations in the

weekend timing plans and required up to 7 seconds of displaced green time during other times of day.

The shelter renovation was completed in 2014, but VDOT chose to retain the elongated LPI. Although pedestrian volume has dropped significantly, the LPI still provides benefits for pedestrians who use the intersection, and it only affects motorists when pedestrians place a call.

## Conclusion

Most guidance on LPI duration is designed to guard primarily against conflicts with right-turning vehicles, but these conflicts are difficult to control where RTOR are permitted. Elongated LPIs can also help guard against conflicts with left turns, which are often higher-speed movements more prone to severe crashes.

VDOT has successfully implemented elongated LPIs at six suburban intersections in Northern Virginia and none have generated operational problems or complaints. An elongated LPI is not right for every signalized intersection, but engineers should consider it at intersections with these characteristics, often found at pedestrian crossings of wide suburban arterials:

- Pedestrians conflict with a permissive left-turn movement.
- Vehicular through movements parallel to the crosswalk do not exist or are low volume.
- The pedestrian phase is actuated.
- A pedestrian crossing takes more time than vehicular demand.

Elongated LPIs and pedestrian crashes are both rare; as such, VDOT does not have enough data to quantify a safety benefit. However, anecdotal observations and literature agree that the trend is toward improved safety performance. [itej](#)

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Table 2: Signal Operational Details at West Ox and Post Forest

Timing Plan $s$	Cycle length (sec)	Maximum green time $G_s$ for side street phase (sec)	Pedestrian time $W$ (sec)	Potential LPI $P_s$ (sec)
Weekday AM Peak	140	20	34	14
Weekday mid-day	70	15	34	19
Weekday Off-peak	130	21	34	13
Weekday PM Peak	150	43	34	--
Saturday peak	75	13	34	21
Sunday peak	75	13	34	21
Weekend AM	70	12	34	22
Weekend PM	75	12	34	22



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## There's No Simple Formula for Rolling Out New Bike Lanes

BY [JARED BREY](#) | DECEMBER 20, 2017



(AP Photo/Matt Rourke)

**B**icycle advocates lined up in the middle of a Center City Philadelphia street twice in the last month, forming a human-protected bike lane in the wake of high-profile collisions.

At the end of November, a 24-year-old pastry chef named Emily Fredricks was riding in a painted bike lane when she was [struck by a turning garbage truck](#) and killed. Three weeks later, a web designer named Becca Refford, also 24, was hit by another truck just a few blocks from where Fredricks was killed. Refford, who is recovering, has shattered hips and a fractured pelvis, [according to news reports](#).

Both collisions occurred in long-established bike lanes in the heart of the city. According to the Bicycle Coalition of Greater Philadelphia, Fredricks was the third bicyclist to die in a traffic incident in the city in 2017. But the city is [resisting](#) calls to reorient its bike lane plans in reaction to those specific incidents.



Shortly after Fredricks' death, the Coalition sent Mayor Jim Kenney [a list of seven steps](#) to speed up the pace of progress on Vision Zero, the city's commitment to achieving zero traffic-related deaths by 2030. Among the demands was that the city present a plan to protect or buffer bike lanes on two streets in the next two months (Spruce and Pine, two east-west arterials that traverse all of Center City), redesign some intersections, and repaint 23 miles of faded bike lanes.

Kenney said [in response](#) that his administration is committed to Vision Zero, and to establishing more protected bike lanes throughout the city, but that it was going to keep its focus on the [high-injury network](#), which the two streets are not a part of, despite the recent crashes.

"While Pine and Spruce streets will continue to receive our focus, arbitrary timeframes applied to these locations hold the risk of taking important attention away from other places in the city where the data indicates the safety concerns may be more acute," Kenney wrote.

Protected bike lanes have been shown to [increase ridership](#) and [safety](#) in cities, but Ken McLeod, policy director for the League of American Bicyclists, says that while many cities have shown interest in developing better bike infrastructure, only a few are leading the way. Approaches vary, but some are relying on data — and the numbers and voices heard during community engagement may require considerate reckoning.

"If a city has an appropriate long-term data-driven plan, it's really hard to say no to that," McLeod says. "But it's also hard to ignore the emotional appeal of reacting to incidents. I know some cities have had issues where their safety responses have been based on community feedback, and sometimes that's meant that they've steered more resources to louder communities, which means that they're ignoring lower-income communities or communities that don't have political capital."

McLeod says that some cities, like Austin and San Francisco, have been able to build support for specific bike infrastructure projects by including them in larger transportation funding campaigns. He also noted that unsanctioned pop-up infrastructure can sometimes convince leaders that permanent improvements are needed, as [Next City has reported](#).

Bicycle advocacy has gained steam as data has become more readily available, McLeod says. According to an inventory of protected bike lanes collected by People for Bikes, the number of protected lanes in the U.S. has roughly doubled every two years since 2006. But some cities are still way out ahead.

"It's still a type of facility that's in a minority of communities," McLeod says. "There's a lot of work to do in the rest of the country."

In Philadelphia, the city's Office of Transportation and Infrastructure Systems (OTIS) last week [announced plans](#) to build flexible delineator posts to buffer a bike lane on several blocks of South Street. There was resistance in the neighborhood early on, but city officials say support from community organizations and business groups in the area helped.

Advocates have criticized the city for leaning too heavily on approval from City Council members and near neighbors when making decisions about street upgrades. But OTIS officials say that getting community buy-in is essential to making street upgrades permanent. In his response to the Bicycle

Coalition, Kenney said the group should redouble its efforts at civic engagement and building the case for better bike lanes.

“We want to really build the momentum and the sustained acceptance and approval for bike infrastructure, rather than rolling out a lot and having a lot of backlash,” says Kelley Yemen, the city’s director of complete streets.

Yemen says that there are monthly meetings between OTIS, the Streets Department, and the police in which they discuss recent collisions and potential quick fixes at the intersections where they have occurred. But given the funding they have for permanent infrastructure upgrades, the city wants to keep its efforts focused on the high-injury network, which is why it’s resisting calls to immediately build protected lanes on Spruce and Pine in Center City. (The Bicycle Coalition also asked Kenney to add \$1 million to Vision Zero efforts, to which the mayor responded noncommittally, citing the city’s “vulnerable” finances.)

During his mayoral campaign, Kenney promised to establish 30 miles of protected bike lanes in the city. But in his response to the Bicycle Coalition’s request to release a map showing where those projects will be built, Kenney said the city would announce them individually, after consulting with surrounding communities.

“That process takes longer,” says Jeannette Brugger, the bicycle and pedestrian coordinator at OTIS. “But it’s worth it with the buy-in and acceptance of the community.”

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