

**VIRTUAL MEETING OF THE MULTI-MODAL TRANSPORTATION BOARD**  
**THURSDAY, SEPTEMBER 3, 2020**  
**<https://zoom.us/j/93483721344> or dial: 877 853 5247 US Toll-free,**  
**Meeting ID: 934 8372 1344**

1. Roll Call
2. Introductions
3. Review of the Agenda
4. Approval of Minutes, Meeting of **June 4, 2020**
5. **Bicycle Signage**
6. **Transportation Impact Study Requirements for Private Development**
7. **Update on Brown Street Design Changes**
8. Meeting Open to the Public for items not on the Agenda
9. Miscellaneous Communications
10. Next Meeting – **October 1, 2020**
11. Adjournment

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**CITY OF BIRMINGHAM MULTI-MODAL TRANSPORTATION BOARD**  
**Thursday, June 4, 2020**  
**Held Virtually Via Zoom and Telephone Access**

Minutes of the virtual regular meeting of the City of Birmingham Multi-Modal Transportation Board held Thursday, June 4, 2020.

Chairwoman Johanna Slanga convened the meeting at 6:03 p.m.

**1. ROLL CALL**

**Present:** Chairwoman Johanna Slanga; Board Members Tom Peard, Katie Schafer, Doug White, Joe Zane; Alternate Board Member Andrew Haig

**Absent:** Board Member Daniel Rontal

**Administration:** Jana Ecker, Planning Director  
Eric Brunck, IT Manager  
Laura Eichenhorn, Transcriptionist  
Austin Fletcher, Assistant City Engineer  
Scott Grewe, Police Commander

**Fleis & Vandenbrink (F&V):**

Julie Kroll  
Justin Rose

**MKSK:**

Ben Palevsky  
Brad Strader

Chairwoman Slanga reviewed the appropriate parliamentary procedures for a virtual meeting. She thanked everyone for their participation and cooperation in advance.

**2. Introductions**

None.

**3. Review Agenda**

No changes.

**4. Approval of MMTB Minutes of May 7, 2020**

**Motion by Mr. White**

**Seconded by Mr. Zane to approve the MMTB Minutes of May 7, 2020 as submitted.**

**Motion carried, 6-0.**

ROLL CALL VOTE

Yeas: White, Zane, Haig, Peard, Slanga, Schafer

Nays: None

**5. Brown Street Design Options**

Mr. Palevsky presented the item.

Commander Grewe reported that he met with DPS regarding the signage for Brown Street that was approved as a temporary measure at the last MMTB meeting. He said during the meeting concerns arose about where to install the signs, noting that once parking is reinstated along the south side of the road eastbound traffic would not be able to see the signage on the right side of the road. He explained that westbound traffic would still see the sign and that eastbound traffic would still see the sign on the north side of the road. He said the sign could be installed on a cement pad in the easement area in the future if the MMTB decides to make the sign permanent.

Ms. Kroll said maintaining the gateway feel of the signs is important and said that her team could work with Commander Grewe and DPS to determine the best place to install the signs. She said they could also consider pulling back some of the parking on the south side to increase signage visibility.

Mr. Haig asked if there would be any way to hang the sign directly above the location where it would have otherwise been placed curbside to achieve the correct effect in the originally intended location. He cautioned that installing the signs after the juncture may not allow the signs to have the intended effect.

Commander Grewe said DPS would be reaching out to the sign manufacturer to see if there were any narrower sign base alternatives or ones with a shorter bolt that would not cause damage to the curb. He said DPS was concerned that installation of the sign on the six-inch curb could cause the curb to fracture. He explained that if the cement pad were pursued upon a permanent approval, it would only move the sign six to ten inches away from the original spot. He said that while installing it on a bump-out would be another option, that would result in it needing to be removed every winter. For this reason Commander Grewe stated that a permanent installation of the sign would be best either on top of or inside the curb.

Mr. Strader noted that the parking on the south side of the road has gaps in it, so that if it was pushed back as Ms. Kroll said might be an option it could be done without losing any parking spaces.

Commander Grewe said pushing the parking back could add to the visibility of the pedestrian crossing signs that will be installed there as well. He told the MMTB that the 'cross traffic does not stop' signs have been on order since the May 2020 MMTB meeting and that the City would install them as soon as they arrived.

Chairwoman Slanga invited Board comment.

Dr. Schafer said the proposed changes to make the crosswalk markings wider and brighter would significantly increase pedestrian safety. She said she has found that the gateway treatments on Eton, near her office, are often hit by vehicles and in poor repair. She said she has largely found them to be ineffective and aesthetically displeasing.

Mr. Zane said Phase One seemed like a good start towards getting the City to where it wants to be at this intersection.

**Motion by Mr. Zane**

**Seconded by Mr. White to recommend that the City Commission approve the implementation of the following Phase One options as outlined in the MKSK report dated May 28, 2020:**

- 1. Advance Stop/Yield Lines – Yield lines on Brown St to be painted 20 to 50 feet in advance of each unsignalized pedestrian crossing. Stop lines would be painted farther back from crosswalks on Chester, Bates and Henrietta.**
- 2. Painted Curb Extensions/Parking Restrictions at Crossing Locations – Curb extensions to be painted on the street at intersections with pedestrian crossings. On street parking will be removed within 30' of the crossing on both sides of Brown Street.**
- 3. Gateway Treatments – Additional signs to be installed on the centerlines and on both sides of the curb, on both sides of each intersection with a pedestrian crossing.**
- 4. High-Visibility Crosswalk Markings – Repaint all existing crosswalks in the corridor in continental style according to the City's guidelines.**

**Motion carried, 6-0.**

**ROLL CALL VOTE**

Yeas: Zane, White, Haig, Peard, Schafer, Slanga

Nays: None

Chairwoman Slanga recommended that when this motion is presented to the City Commission that the removal of 30 feet of on street parking on Brown be rephrased in terms of parking spaces that will be lost.

**6. Bike Rack Installation**

Planning Director Ecker reviewed the item.

In reply to Mr. White, Planning Director Ecker explained that she could return with cost estimates for the potential installation of more bike maintenance stations if the Board were interested.

In reply to Mr. Haig, Planning Director Ecker stated that the Planning Department would meet with DPS if this item gains approval to determine the exact locations for the bike rack installations. She explained they would need to work together to make sure no utilities or other essential City operations would be negatively impacted by their placement. She also explained that the concrete pads under the bike racks would likely be no more than one to two sidewalk squares in size.

**Motion by Mr. White**

**Seconded by Mr. Peard to endorse the installation of 24 new bike racks at 14 existing Neighborhood Destinations as outlined in Phase 5 of Bicycle Parking Plan.**

**Motion carried, 6-0.**

ROLL CALL VOTE

Yeas: White, Peard, Zane, Haig, Schafer, Slanga

Nays: None

**7. Meeting Open to the Public for items not on the Agenda**

**8. Miscellaneous Communications**

**9. Next Meeting – July 9, 2020**

**10. Adjournment**

No further business being evident, the board members adjourned at 6:58 p.m.

Jana Ecker, Planning Director

Austin Fletcher, Assistant City Engineer



## MEMORANDUM

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**DATE:** July 31, 2020

**TO:** Multi-Modal Transportation Board

**FROM:** Jana L. Ecker, Planning Director  
Cmdr. Scott Grewe, Police Department  
Austin Fletcher, City Engineer

**SUBJECT:** Bicycle Signage

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In accordance with the recommendations of the Multi-Modal Transportation Plan (MMTP), the City has completed the Neighborhood Connector Route for bicycle travel around the City. This route contains various bicycle infrastructure elements, including bike lanes, buffered bike lanes, sections of cycle track and sharrows to indicated shared lanes.

The City has recently received correspondence from cyclists expressing frustration that many drivers do not understand that bicycles are entitled to use a full lane of the road. This issue has become more prominent as cycling has increased in popularity. In December of 2019, the Michigan Manual of Uniform Traffic Control Devices (MMUTCD) was updated to allow for the use of new signage to inform all road users that bicyclists may use the full lane (Sign R4-11 in MMUTCD). These signs are permitted for use along roads where there are no bicycle lanes or shoulders and where the road is too narrow for bicycles and cars to operate side by side safely.

Accordingly, the City's transportation consultants were asked to review the Neighborhood Connector Route and determine if any signage changes were recommended along the route in light of resident complaints and updated signage requirements. Please find attached a report from Fleis and VandenBrink outlining the findings of their review, along with their recommendations to add four new R4-11 signs along the Lincoln leg of the route.

### **Suggested Action:**

To recommend approval of the installation of four new R4-11 signs to be installed along W. Lincoln at the following intersections:

- E. Lincoln and S. Eton
- E. Lincoln and Adams
- E. Lincoln and Woodward
- W. Lincoln and Southfield Road

# MEMO

VIA EMAIL

**To:** Cmdr. Scott Grewe, Operations Commander  
Birmingham Police

**From:** Julie M. Kroll, PE, PTOE  
Bandhan Ayon  
Fleis & VandenBrink Engineering

**Date:** July 30, 2020

**Re:** Evaluating Potential Sites for 'Bicycles May Use Full Lane (R4-11)' Sign

Fleis & VandenBrink (F&V) have prepared the following memorandum that includes an evaluation of the existing bike signing. The *Michigan Manual of Uniform Traffic Control Devices (MMUTCD)* Sections 9B.06 was recently updated in December 2019 to allow the use of 'Bicycles May Use Full Lane (R4-11)' sign. F&V reviewed the existing designated bicycle facilities throughout the city, which are currently limited to the Neighborhood Connector Route. Based on the review of the existing infrastructure we have presented a summary of the findings and potential sign locations for the Multi-Modal Transportation Board (MMTB) consideration.

## BACKGROUND

The neighborhood connector routes includes various bike infrastructure; directional bike lanes, buffered bike lanes, shared lanes marking (sharrows) and a short section of cycle track adjacent to Maple Road. The Neighborhood Connector Route was used to evaluate where the signs may be initially considered for implementation. Section 9B.06 of the *MMUTCD* provides the following criterion regarding the use of Bicycles May Use Full Lane Sign (R4-11).

- A. *The Bicycles May Use Full Lane (R4-11) sign may be used on roadways where no bicycle lanes or adjacent shoulders usable by bicyclists are present and where travel lanes are too narrow for bicyclists and motor vehicles to operate side by side.*
- B. *The Bicycles May Use Full Lane sign may be used in locations where it is important to inform road users that bicyclists might occupy the travel lane.*
- C. *Section 9C.07 describes a Shared Lane Marking that may be used in addition to or instead of the Bicycles May Use Full Lane sign to inform road users that bicyclists might occupy the travel lane.*



## SIGNING EVALUATION

F&V reviewed the existing Neighborhood Connector Routes to identify potential locations to install R4-11 signs. Bike lanes, buffered bike lanes, and the cycle track section were excluded from the review as bicycles have a dedicated facility and are therefore excluded as outlined in Section 9B.06 Criteria A.

Therefore, bike routes with sharrows were examined to identify where travel lanes are too narrow for bicyclists and motor vehicles to operate side by side. Additionally, road segments or travel lanes were identified where it is important to inform road users that bicyclists might occupy the travel lane. Special considerations were

provided where any obstruction such as an on-street parking facility, limits cyclists' ability to continue biking to the far-right side of the lane.

### RECOMMENDED SIGN LOCATIONS

It was determined that R4-11 signs should be considered by the MMTB along roadways with a functional classification of *Collector Road* or higher AND one of the criteria outlined in Section 9B.06 of the *MMUTCD*. Based on the review of the Neighborhood Connector Route it was determined that sections of the route along Lincoln Street met the criteria for additional signage. The recommended R4-11 sign locations are summarized below in the following table and shown on the attached exhibit.

Location #	Direction	Street	Location
1	WB	Lincoln Street	West of S. Eton
2	EB	Lincoln Street	East of Adams
3	WB	Lincoln Street	West of Woodward
4	EB	Lincoln Street	West of Shipman

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

- Attached:**
- National Functional Classification Map
  - Neighborhood Connector Route:
    - Existing Bike Facilities
    - On-Street Parking
    - Recommended Sign Locations

## National Functional Classification of Roads



### Legend

- NFC - National Functional Classification**
- Interstate Freeway
  - Other Freeway
  - Other Principal Arterial
  - Minor Arterial
  - Major Collector
  - Minor Collector
  - Local Road
  - Uncertified / Private Road

**Adjusted Census Urban Boundary**

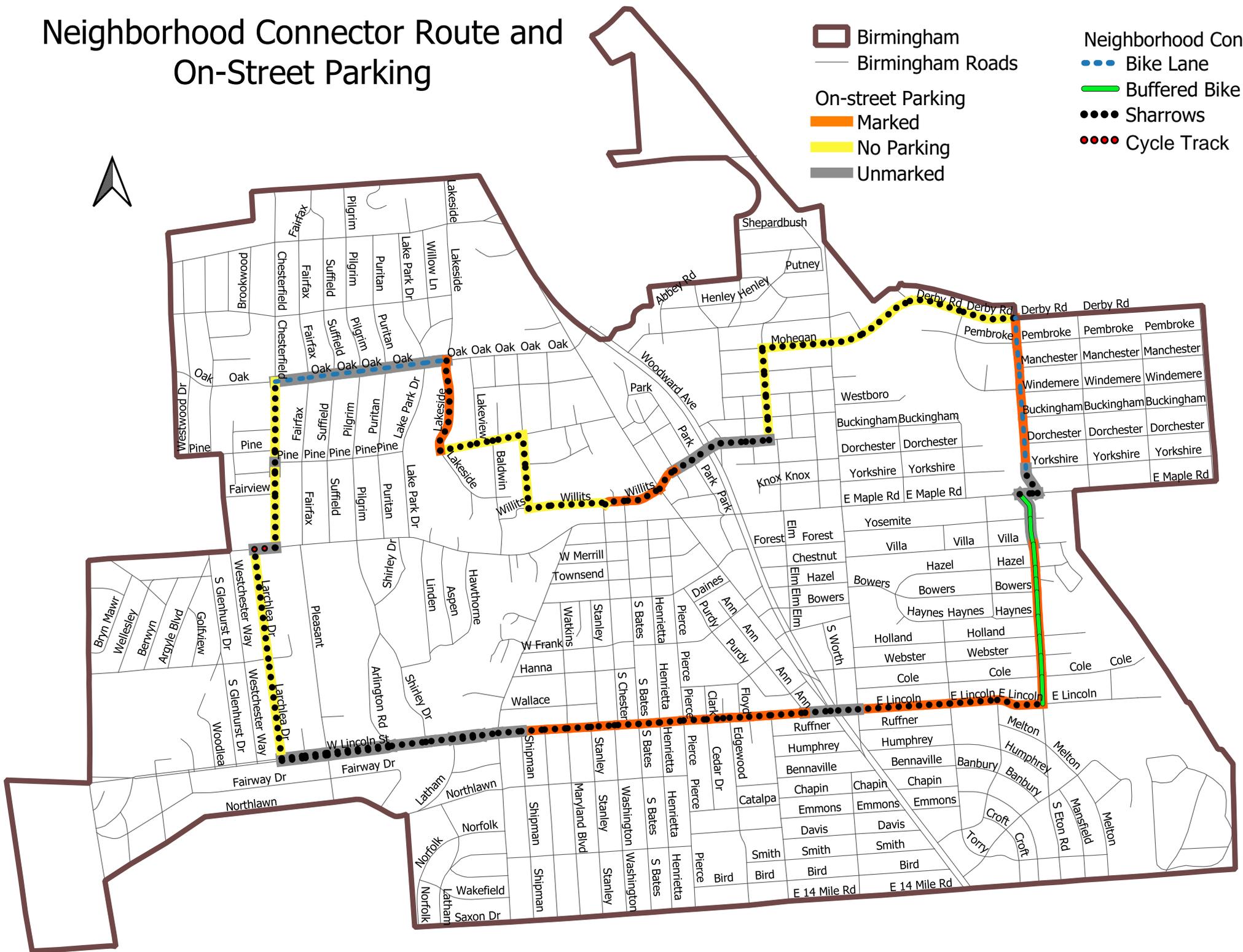




# Neighborhood Connector Route and On-Street Parking



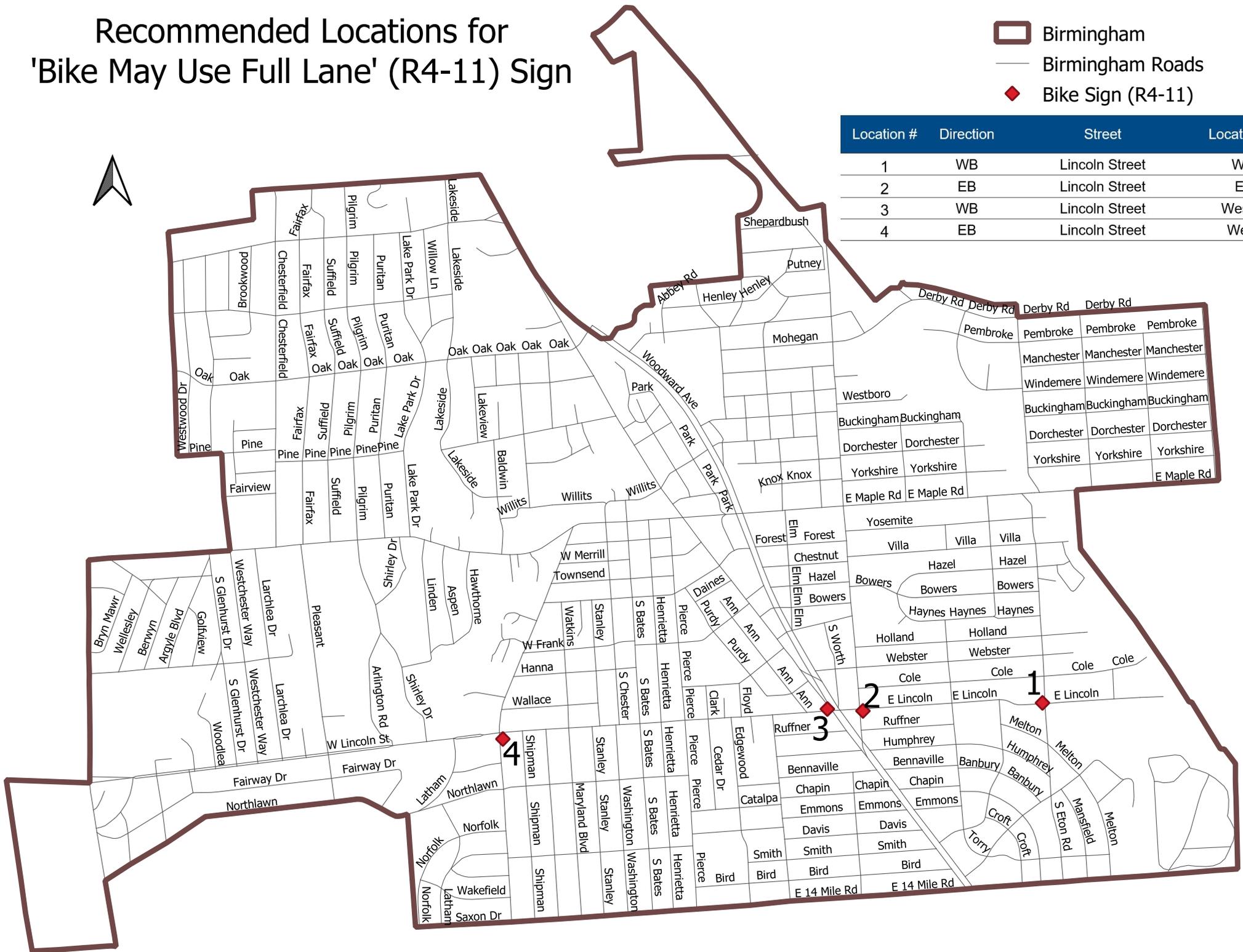
- Birmingham
- Birmingham Roads
- On-street Parking**
- Marked
- No Parking
- Unmarked
- Neighborhood Connector Route**
- Bike Lane
- Buffered Bike Lanes
- Sharrows
- Cycle Track



# Recommended Locations for 'Bike May Use Full Lane' (R4-11) Sign

-  Birmingham
-  Birmingham Roads
-  Bike Sign (R4-11)

Location #	Direction	Street	Location
1	WB	Lincoln Street	West of S. Eton
2	EB	Lincoln Street	East of Adams
3	WB	Lincoln Street	West of Woodward
4	EB	Lincoln Street	West of Shipman



## Fwd: Recent issues cycling in Birmingham

1 message

Scott Grewe <Sgrewe@bhamgov.org>  
To: Jana Ecker <Jecker@bhamgov.org>

Fri, Jul 31, 2020 at 12:00 PM

Here it is. I will send Mr. Eddleston a message that it will be going to the MMTB on Thursday.

----- Forwarded message -----

From: **Joe Valentine** <jvalentine@bhamgov.org>  
Date: Sun, Jun 7, 2020 at 3:38 PM  
Subject: Fwd: Recent issues cycling in Birmingham  
To: Mark Clemence <Mclmence@bhamgov.org>, Scott Grewe <sgrewe@bhamgov.org>

Do you have any issue with the signs? We can talk on Monday.

Sent from my iPhone

Begin forwarded message:

**From:** Paul Eddleston <pauleddleston7@gmail.com>  
**Date:** June 7, 2020 at 1:31:56 PM EDT  
**To:** jvalentine@bhamgov.org  
**Subject:** Recent issues cycling in Birmingham

Dear Sir,

One of your police officers suggested I contact you after I reported to him my latest experiences riding in Birmingham. Basically I was assaulted three times in five minutes by seemingly enraged motorists and was seriously fearful of losing my life. [video](#)

A week earlier I had to call 911 when another motorist hit me while riding on Old Woodward.

I told your officer that I believed that all four of these incidences may have been avoided if the newly approved sign (attached) were utilized around the city, Birmingham does a great job of traffic calming and pedestrian and cycling infrastructure but unfortunately not enough motorists understand that cyclists can use the full lane and that it is safer to do so. Think of this sign in the same vein as the signs often applied at pedestrian crosswalks to remind motorists they are obliged to stop for pedestrians.

I look forward to hearing your thoughts on this matter.

--  
Paul Eddleston  
Washington Blvd



--  
Scott Grewe  
Operations Commander  
Birmingham Police Department  
151 Martin St.  
Birmingham, MI. 48009  
(248)530-1867





## MEMORANDUM

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**DATE:** July 31, 2020

**TO:** Multi-Modal Transportation Board

**FROM:** Jana L. Ecker, Planning Director  
Cmdr. Scott Grewe, Police Department  
Austin Fletcher, City Engineer

**SUBJECT:** Transportation Impact Study Requirements for Private Development

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The City of Birmingham Zoning Ordinance includes a requirement for developers to prepare a Community Impact Statement for certain development projects, typically those that are over 20,000 square feet in size. In the past, the quality of the traffic studies the City has received have varied widely. Some of the preparers contact the City or Julie Kroll in advance of collecting data and completing a study, as recommended, but many do not. As a result, many studies lack important information, show a lack of understanding about the existing conditions, have flawed assumptions or are missing the level of analysis needed for City staff and officials to make informed decisions. Thus, studies that are submitted often have to be revised, if not completely redone, causing delays and frustration for the Planning Board and the public who attend the meetings.

Accordingly, our transportation consulting team of Fleis & VandenBrink and MKSK was asked to prepare guidelines outlining the requirements for transportation impact studies based on best practices as recommended by the Institute of Transportation Engineers, MDOT, and other transportation organizations and experts. For your review, please find attached the following:

- A one page summary of the process;
- A chart to assist applicants in determining the level of transportation analysis needed depending upon the scale and type of project);
- A flow chart to illustrate the process; and
- A table that outlines in detail the different types of data and analysis required for each type of study to ensure that all required elements are included.

While transportation impact studies are typically reviewed by the Planning Board and City Commission, the Multi-Modal Transportation Board is the City board responsible for providing a multi-modal analysis for all public transportation projects, and thus is well suited to assist the Planning Board in creating detailed guidelines to improve transportation studies submitted for private developments in the City. These guidelines, once endorsed by the Multi-Modal Transportation Board and Planning Board, will be posted on the City's website and provided to prospective developers. No ordinance changes are required nor proposed.

## Transportation Impact Study Guidelines



These guidelines describe the City of Birmingham's requirements and for transportation impact studies as part of a Community Impact Statement, as required by the Zoning Ordinance. The intent of this manual is to help ensure consistency in the data collection, evaluation and description of improvements that may be needed. This information is important to assist City Officials in decision-making.

Potential applicants should contact the City's traffic engineering consultant, prior to completion of a transportation impact study, to establish the framework and scope of the study. In some cases, the City Transportation Planning consultant may also be involved. For developments that are located on and/or will impact roads under the jurisdiction of MDOT or the Road Commission for Oakland County, the scope of work should be coordinated with those agencies as well.

These guidelines are intended to help achieve the following objectives:

- Provide a standard set of analytic tools and format for preparing transportation impact studies based on procedures outlined in the Institute of Transportation Engineers "Multi-modal Transportation Impact Studies: A Recommended Practice", the Michigan Manual "Traffic Impact Studies, A Guide for Local Communities" and other best practices.
- Alert Developers and their transportation professionals of the City's requirements to study all modes and with a focus on safety.
- Forecast the transportation impacts created by new developments based on accepted traffic engineering practices, not perception.
- Help ensure safe and reasonable operating conditions for all types of travelers on streets and intersections after development of the proposed use.
- Reduce the negative transportation impacts created by individual developments by helping to ensure the transportation system can accommodate the expected impacts safely and efficiently.
- Allow the City to assess the effects that a proposed project may have on the City by outlining information needed and evaluation procedures to be used.
- For rezoning's, the transportation impact study is intended to help evaluate if the rezoning is consistent with the Master Plan or Subarea Plan, if rezoning is not consistent with the Master Plan, how the rezoning may impact the City's transportation system.

There are three types of transportation studies. The thresholds that trigger the type of study needed are shown on Table 1, followed by a flow chart that illustrates the process. The information and analysis required varies, as shown on Table 2 at the end of this manual.

Rezoning Transportation Study (RTS): Describes relevant existing traffic conditions and compares the potential trip generation of a site's use under the existing and proposed zoning classifications.

Transportation Impact Assessment (TIA): Describes existing and likely future transportation conditions both with and without the proposed development. This type of study is for smaller scale projects which should not have a significant impact on the overall transportation system but will have impacts at the site access points. The evaluation is focused on the operation of the proposed site access drive(s).

Transportation Impact Statement (TIS): A TIS is similar to a TIA but includes off-site intersections and other critical street features more impacted due to a proposed use's greater amount of trip generation. It may also be appropriate to evaluate impacts at an off-site location due to ongoing congestion or safety problems, or because a street redesign is pending and should account for potential land use changes in the area. A TIS evaluates the transportation operations under existing conditions, background (buildout year without the proposed development) conditions, and future (with the proposed development) conditions. Larger scale projects, which generate 500 or more peak-hour peak-direction trips, may be required to provide a horizon year analysis.

**Thresholds for the Type of Transportation Impact Study Required**

As described in the City of Birmingham Zoning Ordinance, a transportation impact analysis is required as part of the Community Impact Statement for certain scales of proposed development (see Table 1 below). The checklist below (Table 2) can be used to determine the type of transportation study required. The process is illustrated on the next page, followed by a list of the required contents for each type of study (Table 3).

**Table 1: Thresholds for When Some Type of Transportation Impact Study is Required**

1. A new structure or building of 20,000 sq. ft. GFA or more
2. An expansion of a building or structure of 20,000 sq. ft GFA if that is an increase of 10% or more
3. Other situations upon determination by the Planning Board at Preliminary Site Plan Review that the proposed development may exert a significant transportation impact. The Planning Board may seek a recommendation from the City’s Multi-Modal Transportation Board.

**Table 2: Checklist to Determine Type of Transportation Impact Study Needed**

	Yes	No	Maybe	Study Type (required if Maybe or Yes)
Is the proposed change inconsistent with the Master Plan?				RTS
Does the proposed development involve amendments to an approved Cluster Development?				RTS
Is this a rezoning for a specific use or that includes a site plan?				TIA or TIS
Will 500-749 driveway trips be generated per day?				TIA
Will 750+ driveway trips be generated per day?				TIS
Will 50-99 peak-hour, peak-direction driveway trips be generated?				TIA
Will 100+ peak-hour, peak-direction driveway trips be generated?				TIS
If the project involves expansion or redevelopment, will the change result in more than 50 additional peak-hour, peak-direction trips or more than 500 additional trips per day for the entire development?				TIA
If the project involves expansion or redevelopment, will the change result in more than 100 additional peak-hour, peak-direction trips or more than 750 additional trips per day for the entire development?				TIS
Was a transportation study previously completed for this development and the study more than 3 years old?				RTS/TIA/TIS
Is there a high-crash existing intersection adjacent to the site?				TIS
Is planning underway for rebuilding a nearby off-site intersection?				TIS

**Study Preparer Qualifications**

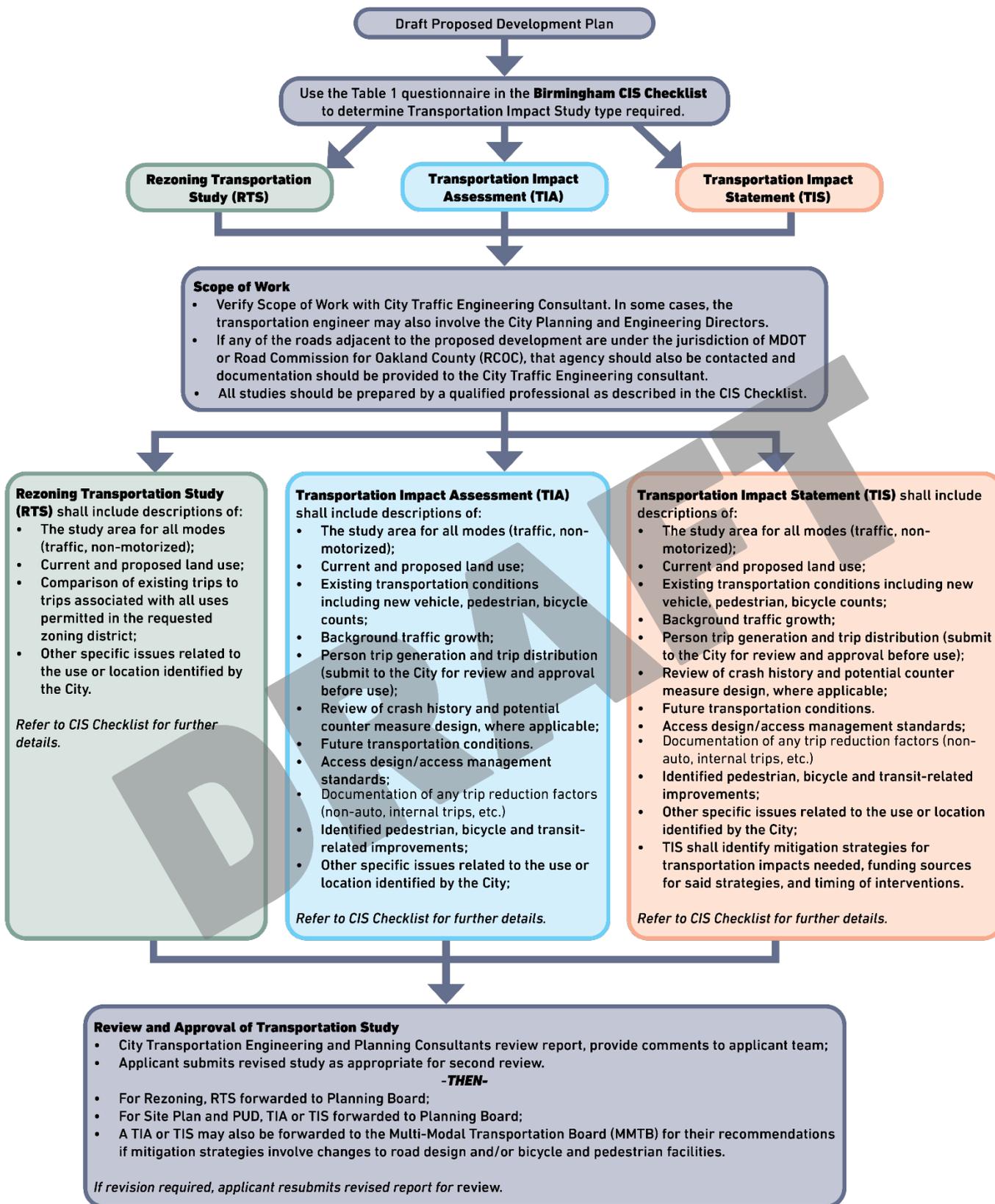
The preparation of a transportation impact study requires extensive background and experience in traffic-related and multimodal transportation analyses. The preparer shall sign the report and include a resume that demonstrates all of the following qualifications:

1. At least five years of recent experience in the preparation of transportation impact studies.
2. Membership in one or more professional transportation-related organizations, particularly the Institute of Transportation Engineers (ITE) or the Transportation Research Board (TRB).
3. Professional credential as registered engineer (PE) or ITE Professional Transportation Planner (PTP) or Certified Transportation Planner (CTP) from the American Institute of Certified Planners.
4. Any study involving roadway or traffic signal design work shall be prepared by or under the supervision of a registered engineer (PE) with the necessary qualifications and/or specific training.
5. Any study with recommendations for traffic signal work shall be a Professional Traffic Operations Engineer (PTOE).
6. The study preparer shall be prequalified with MDOT to perform analyses that involve MDOT facilities.

# City of Birmingham Transportation Study Flow Chart

July 30, 2020

This flow chart describes the process for completing the Transportation Impact Study required for new developments in the City of Birmingham, as described in the Birmingham CIS Checklist which can be accessed on the City's website (?)



<b>Table 3. Transportation Study Typical Requirements</b> <i>(the Preparer may refer to the institute of Transportation Engineers Recommended Practice: Multi-Modal Transportation Impact Assessments for additional guidance)</i>	Rezoning Transport Study (RTS)	Transport. Impact Assessment (TIA)	Transport. Impact Statement (TIS)
<p><b>STUDY AREA:</b> A description and map(s) of the study area including, but not limited to:</p> <ol style="list-style-type: none"> <li>1. Surrounding land uses</li> <li>2. Intersection geometries (Lane configuration, traffic control and signal timing, etc.)</li> <li>3. Roadway geometries (Functional classifications, cross-sections, jurisdictions, posted speed limits, on-street parking, grades, percentage of heavy trucks, etc.)</li> <li>4. Developments under construction, approved or anticipated in the area that may influence background conditions</li> <li>5. Planned and committed roadway improvements in the vicinity</li> <li>6. Existing traffic volume data (general ADT from recent counts, SEMCOG, etc.)</li> <li>7. Acknowledge review of the City's Master Plan, Subarea Plan, and Multi-Modal Transportation Plan, and describe or illustrate any specific recommendations in the Study Area from those Plans.</li> <li>8. Study area map(s) with site location, study intersections, and area evaluated for pedestrian, bicycle and transit)</li> </ol> <p><b>Note: The Study Area, especially intersections selected for data collection and analysis, should be confirmed with the City's Traffic Engineer and Transportation Planner before data is collected.</b></p>	X	X	X
<p><b>PROPOSED USE(S):</b> A description of the current and proposed land use(s), including characteristics such as:</p> <ol style="list-style-type: none"> <li>1. Type of development, with associated ITE land use categories</li> <li>2. Development size (Number of dwelling units, gross and usable floor area, etc.)</li> <li>3. Development characteristics that influence travel (Number of employees, expected hours of operation, shift change factors, work from home or other programs that may influence person travel trips)</li> <li>4. Proposed build-out year (Include any phasing or future expansion)</li> </ol>	X	X	X
<p><b>EXISTING CONDITIONS:</b> A description of existing transportation conditions, including:</p> <ol style="list-style-type: none"> <li>1. Existing traffic, pedestrian and bicycle counts including existing peak-hour turning movement counts at the study intersections and site access point(s).</li> <li>2. Traffic count data shall not be over two years old, unless the City permits counts up to three years old to be increased by a factor supported by documentation.</li> <li>3. Traffic and non-motorized counts shall be taken on a Tuesday, Wednesday, or Thursday of non-holiday weeks, while school is in session. Additional counts (i.e. on a Saturday for a proposed commercial development) may also be required in some cases. The individual or firm, shall obtain counts during average or higher than average volume conditions (i.e. regarding weather or seasonal variations and in consideration of any construction or special events) for the area under study.</li> <li>4. Calculate the existing vehicle delays, LOS, and vehicle queues for all movements at signalized intersections and for all critical movements at unsignalized intersections at during the AM and PM peak hours of the streets, unless indicated otherwise. Intersection analysis shall include LOS determination for all approaches and movements, based on the procedures outlined in the most recent edition of the <u>Highway Capacity Manual</u> (HCM).</li> <li>5. Traffic crash data and analysis covering the most recent three (3) years for the study area or proximity to site access points is required for a TIS and <b>MAY</b> be required by the City for a TIA, particularly for sites along roadways identified by SEMCOG or the City as Critical or Congested Corridors or High Crash locations. (see safety section below)</li> </ol>		X	X
<p><b>BACKGROUND TRAFFIC ASSUMPTIONS:</b> A description of the background traffic growth (traffic changes expected based on volume trends and new development in the vicinity that is expected to be open by the time of the proposed development) including:</p> <ol style="list-style-type: none"> <li>1. For any project with an opening date beyond one year from the date the transportation study was prepared, the analysis should include a scenario analyzing forecasted traffic at the expected date of completion (i.e. existing + forecasted change + project traffic).</li> <li>2. Existing traffic volumes should be forecasted for the future through use of historic count trends and/or use of the future traffic projected by SEMCOG + traffic associated with approved and/or proposed developments in the vicinity of the study area that have yet to be constructed, are currently under construction or are not yet fully occupied (data from traffic studies for those projects may be available from the City for this calculation).</li> <li>3. Include in the baseline background condition, any transportation improvement projects in the study area that will be completed or underway by the build-out year.</li> <li>4. Calculate the background (without the proposed development) vehicle delays, LOS, and vehicle queues for all movements at signalized intersections and for all critical movements at unsignalized intersections at during the AM and PM, unless indicated otherwise. Intersection analysis shall include LOS determination for all approaches and movements, based on the procedures outlined in the most recent edition of the HCM.</li> <li>5. If one or more movements experiences a LOS "E" or worse in the downtown, or "D" or worse outside of the downtown, a description shall be provided and potential mitigation measures need to be evaluated.</li> </ol>		X	X

<b>Table 3. Transportation Study Typical Requirements</b> <i>(the Preparer may refer to the institute of Transportation Engineers Recommended Practice: Multi-Modal Transportation Impact Assessments for additional guidance)</i>	Rezoning Transport Study (RTS)	Transport. Impact Assessment (TIA)	Transport. Impact Statement (TIS)
<p><b>PERSON TRIP GENERATION:</b> A description of the person trip generation, including:</p> <ol style="list-style-type: none"> <li>Forecast of the number of peak hour (AM and PM, if applicable) and daily person trips that would be generated by the proposed development based on data published by the most recent edition of the Institute of Transportation Engineers (ITE) in <i>Trip Generation</i> and/or local development data as approved for use in the study by the City.</li> <li>Provide a comprehensive analysis of site-generated trips, based on the available transportation modes (i.e. vehicular, pedestrian, bicycle, SMART transit, etc.)</li> <li>A table that describes the land use, ITE code number, development size/number of units, daily trips, and peak hour trips in and out.</li> <li>Any trip reduction for pass-by trips, internal capture rates, transit, ridesharing, other modes, etc. shall be based on ITE methodologies in the Trip Generation Handbook.</li> <li>For a rezoning, a comparison of the rates associated with the range of uses permitted in the current zoning district compared to the range of uses permitted in the requested district.</li> <li>For projects intended to be developed in phases, trip generation by phase shall be described and provided in a table format.</li> </ol> <p><b>Note: Person trip generation rates and reduction factors should be confirmed with the City's Traffic Engineer and Transportation Planner before analysis</b></p>	X	X	X
<p><b>TRIP DISTRIBUTION:</b> A description of the trip distribution (expected trip routing), including:</p> <ol style="list-style-type: none"> <li>Illustrations of where traffic generated is expected to be distributed onto the existing street network. The basis shall be explained (counts, observations, gravity model, market study)</li> <li>Illustrations of project turning movements at site access point(s) and nearby intersections, where required.</li> <li>For pedestrian, bicycle and transit trips, a map that illustrates expected volumes and the travel patterns related to nearby pedestrian crossings, bike share/parking, bus stops.</li> </ol>		X	X
<p><b>PROJECTED CONDITIONS - TRAFFIC:</b> A description of the future transportation conditions, including:</p> <ol style="list-style-type: none"> <li>Calculate the future (existing + background + development) vehicle delays, LOS, and vehicle queues for all movements at signalized intersections and for all critical movements at unsignalized intersections during the AM and PM, unless indicated otherwise.</li> <li>Intersection analysis shall include LOS determination for all approaches and movements, based on the procedures outlined in the most recent edition of the HCM.</li> <li>If one or more movements experiences a LOS "E" or worse in the downtown, or "D" or worse outside the downtown, potential mitigation measures shall be evaluated.(see mitigation section below)</li> </ol>		X	X
<p><b>NON-MOTORIZED AND TRANSIT:</b> A description of multi-modal transportation, including:</p> <ol style="list-style-type: none"> <li>Describe the existing + projected volumes of pedestrian and bicyclists.</li> <li>Provide a map that illustrates anticipated pedestrian and bicycle travel to and from the site including sidewalks, crosswalks or expected crossing locations, bike lanes, bicycle parking, and the closest SMART bus stops.</li> <li>Illustrations on a site plan of the anticipated on-site routing of pedestrians and bicyclists, including those in any parking lot or structure.</li> <li>An evaluation of the anticipated routes used by pedestrians and bicyclists to/from and within the site. This should include an evaluation of the pedestrian signal timing.</li> </ol>		X	X
<p><b>ACCESS MANAGEMENT.</b> A description of the access design/access design and a demonstration that the number and location of access points is the best solution to minimize conflict points while providing reasonable access, including:</p> <ol style="list-style-type: none"> <li>Illustration of the site plan with the location and design of the proposed access point(s).</li> <li>Data to demonstrate the number of driveways proposed is the fewest necessary to provide reasonable access.</li> <li>Notation of any sight distance limitations and, if applicable, changes to meet standards (sight distance to/from vehicles, and for pedestrians and bicyclists).</li> <li>Dimensions from adjacent driveways and intersections on either side of the street in the vicinity of the proposed driveway(s), with analysis to demonstrate that there will not be conflicts such as left-turn lock-ups with opposing access points.</li> <li>Dimensions from signalized intersections and analysis that the access points will not interfere with the functional operating area (i.e. the area within which vehicles commonly queue).</li> <li>Evaluation of the need for any changes to streets or access to improve safety and travel for vehicles, pedestrians, and bicyclists (driveway radii, widths, turn lanes, tapers, etc).</li> </ol>		X	X
<p><b>SAFETY:</b> A safety analysis is required to evaluate the existing safety and the impact of additional site generated on the safety of the study intersection.</p> <ol style="list-style-type: none"> <li>A safety analysis shall be performed at the study intersections and site driveway locations.</li> <li>The safety analysis shall include an evaluation of all crashes that have occurred within the past five (5) years of available data. Those that involved a pedestrian or bicyclists should be highlighted.</li> <li>Crashes shall be evaluated in accordance with the most recent version of the SEMCOG Crash Analysis Process as outlined in the SEMCOG Traffic Safety Manual (or analysis using</li> </ol>		If site is along a SEMCOG Safety Priority Corridor or if requested by the Planning Board, or City Traffic Engineer	X

<b>Table 3. Transportation Study Typical Requirements</b> <i>(the Preparer may refer to the institute of Transportation Engineers Recommended Practice: Multi-Modal Transportation Impact Assessments for additional guidance)</i>	Rezoning Transport Study (RTS)	Transport. Impact Assessment (TIA)	Transport. Impact Statement (TIS)
<p>the procedures in the Highway Safety Manual for FHWA STEM guidelines if endorsed by the City Traffic Engineer as appropriate for the location).</p> <ol style="list-style-type: none"> <li>The intersection crash summary shall be compared for each intersection to determine the if the intersections are high-crash locations as compared to similar intersections by type and location and identify any significant crash patterns.</li> <li>Provide a summary of generally related causes and potential countermeasures for crash patterns, including specific countermeasures to address pedestrian and bicycle safety.</li> </ol>			
<p><b>PARKING AND CIRCULATION:</b> A description of parking and on-site circulation including:</p> <ol style="list-style-type: none"> <li>Review of the parking requirements in the Zoning Ordinance, where applicable.</li> <li>Describe the anticipated parking demand of the proposed development.</li> <li>Describe the locations of bicycle and micromobility parking proposed to be installed as part of this project, and explain how the locations were selected.</li> <li>Proposed program to accommodate parking demand. This may include a description of on-site parking, shared parking (agreements required) or use of city parking structures/lots (for those within the parking assessment area).</li> <li>If public parking facilities are expected to be utilized for all or some of the parking demand, an acknowledgement by the Developer of the current availability should be provided.</li> <li>Describe any parking features related to sustainability such as underground parking, parking lot canopy trees, Electric Vehicle Charging Stations, car-share, bicycle parking etc.</li> <li>Circulation for vehicles that will commonly operate on the site shall be illustrated with appropriate turning radii (delivery vehicles, semi-trucks, access to waste receptables, etc.)</li> <li>There must be sufficient on-site storage to accommodate at least three (3) queued vehicles waiting to park or exit without using a portion of the public right-of-way obstructing exiting vehicle sight distance, or otherwise interfering with street traffic.</li> <li>For uses with a drive-through, an analysis shall be provided that the on-site queuing area is sufficient to accommodate peak conditions without causing back-up onto public streets. The City may require a special study of similar uses and site sizes from other locations in Michigan.</li> </ol>		<b>X</b>	<b>X</b>
<p><b>MITIGATION:</b> A description of measures/alternatives to mitigate the development's transportation impact for the categories below. The timing or phasing of improvements, and how those improvements will be accomplished, shall be described.</p> <p><b>Non-Motorized:</b> Describe any design changes that could improve the Quality of Service (travel convenience and safety)for pedestrians and bicyclists (both in the study area and on-site). Examples include: additional or improve crosswalks, pedestrian signals/signs, bump-outs, streetscape enhancements. Describe the timing or phasing of vehicle and non-motorized improvements, and how those improvements will be accomplished</p> <p><b>Transit:</b> For site along a SMART route, or within ¼ mile of a bus stop, describe any proposed transit enhancements, such as the installation of a bench or a bus shelter. Documentation of communications with SMART regarding bus stop relocations or any amenities to make transit more convenient shall be provided.</p> <p><b>Transportation Demand Management:</b> Describe design features and programs that the developer or Owner has considered or will employ to reduce vehicular travel, such as: on-site amenities, employee health programs, convenient and covered bicycle parking, shared vehicle service with priority parking, micro-transit to remote parking areas, free or subsidized bike share programs, financial incentives (e.g. transit passes, separate charges for any on-site parking, etc.)</p> <p><b>Traffic:</b> Outline of proposed mitigation measures necessary to accommodate the existing, background, and/or future conditions, for the study street network required (if needed) to accommodate the site-generated traffic volumes at a LOS E or better for all movements in the downtown and D or better outside of the downtown. If the street is under jurisdiction of MDOT or the Road Commission for Oakland County, the applicant shall document those agencies endorse the change.</p> <p>A list of example mitigation measures is provided below. The designers are encourage to explore other options as well. The City may require a description of alternatives considered and an explanation of those selected.</p> <ol style="list-style-type: none"> <li>Street Improvements: Construct additional lanes, add turn lanes, improve sight distance</li> <li>Median Changes: Modify, relocate or close median crossovers, alter traffic signals</li> <li>Operational Improvements: Changes to signalization, improve pedestrian phases</li> </ol> <p>Note: For study intersections located along coordinated signal corridors, optimizing traffic signals will not be considered an acceptable recommendation to mitigate site-generated traffic</p>			<b>X</b>

<b>Table 3. Transportation Study Typical Requirements</b> <i>(the Preparer may refer to the institute of Transportation Engineers Recommended Practice: Multi-Modal Transportation Impact Assessments for additional guidance)</i>	Rezoning Transport Study (RTS)	Transport. Impact Assessment (TIA)	Transport. Impact Statement (TIS)
<p>Unless proposed signal timing changes reduce delays for the network not just traffic associated with the development</p> <p>Note: If a traffic signal is recommended at any of the study intersections or site access point(s), a signal warrant analysis shall be included in the study and follow the guidelines provided in the <i>Michigan Manual on Uniform Traffic Control Devices (MMUTCD)</i>. The signal warrant analysis shall include an evaluation of Warrant 1: Eight-Hour Volumes, Warrant 2: Four-Hour Volumes, and Warrant 3: Peak-Hour Volumes.</p> <p>4. <b>Access Management:</b> Close or consolidate access points, relocate access to reduce conflicts, change driveway design to improve crossings for pedestrians and bicyclists, provide access onto a lower volume street (when appropriate)</p> <p>5. <b>Site Plan/Land Use Techniques:</b> Reduce project intensity, alter site design, on-site traffic calming, move drive-through or increase queuing area</p>			

X = Required

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**Fwd: Traffic Safety Issues at Corner of Brown and Bates**

1 message

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**Scott Grewe** <Sgrewe@bhamgov.org>  
To: Jana Ecker <Jecker@bhamgov.org>

Fri, Jul 31, 2020 at 11:50 AM

Here are the emails from Julie Hertzberg.

----- Forwarded message -----

From: **Hertzberg, Julie** <jhertzberg@alvarezandmarsal.com>  
Date: Tue, Jul 14, 2020 at 10:00 AM  
Subject: Re: Traffic Safety Issues at Corner of Brown and Bates  
To: Scott Grewe <sgrewe@bhamgov.org>

Hi Commander Grewe, I intended to send you a note when the signs were first placed in the street but decided to wait a couple of weeks so I could happily report back the tremendous improvement in cars paying more attention to the pedestrians at all of the various Brown intersections. We can't thank you and the board enough for taking our considerations so seriously and going the extra distance to come up with a solution that is really making a difference for the safety of the residents in Birmingham. I hope you are doing well and again our sincerest thanks, Julie

**Hertzberg, Julie**

to Scott

Tue, Jul 14, 11:10 AM

It's unbelievable the difference, to be honest. I think it came at a good time as well with the construction diversion as cars are going way over the 25 mph speed limit with the two lanes being open. Take care!