Appendix J

Ann Arbor
Lower Town Mobility Study

Public Engagement

Stakeholders

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- **Presentation**
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- **Presentation**
- **Q&A**

Public Meeting #4

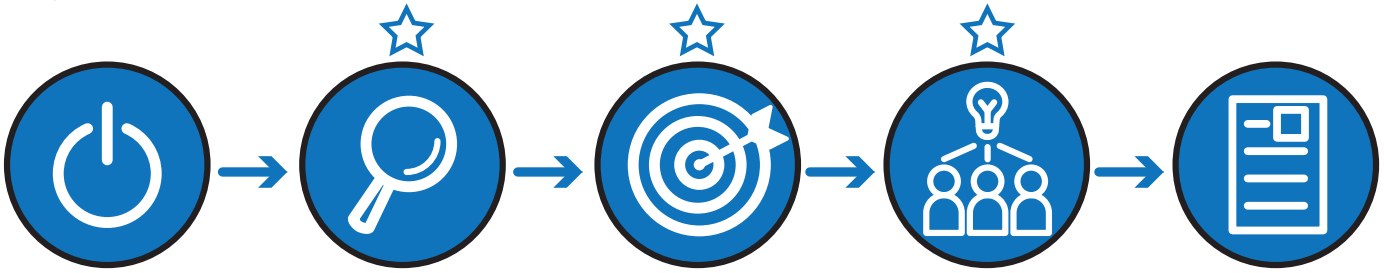
- **Presentation**
- **Q&A**

Ann Arbor Lower Town Mobility Study

Project Purpose

The purpose of the Lower Town Mobility Study is to understand how the effects of growth impact the movement of people through the area and to seek ways to support the ease and safety of all travelers, including pedestrians, bicyclists, transit users, and those in personal and commercial vehicles. Community input and an analysis of operations, safety, anticipated growth and congestion will shape the recommendations of the study.

Project Process



Project Kick Off

Conditions Analysis

Understanding the exisiting transportation conditions in the area

Project Vision and Goals

Developing the metrics needed to evaluated each solution based on impact

Solution Development

Evaluating and refining potential solutions to address mobility deficiencies

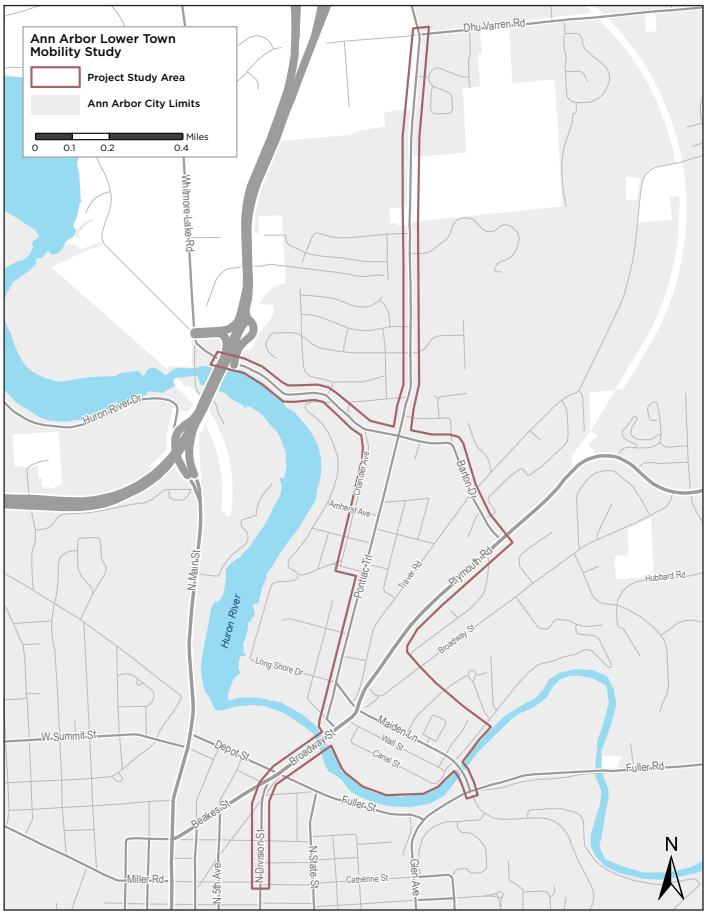
Final Recommendations

Selecting and reporting the short-term and long-term recommendations

Public Engagement Opportunity

Project Area

The Lower Town area is on the north side of Ann Arbor, as shown on the map. This includes the meeting point of Pontiac Trail, Broadway Street, Plymouth Road, Moore Street, Wall Street, and Maiden Lane, which is known as a congestion hot spot, where residents and commuters from the north side of Ann Arbor cross the Huron River to access Downtown, the Medical Campus, North Campus, and other University Destinations.



Subject:

Ann Arbor Lower Town Mobility Study – Stakeholder Interview

Text:

Dear ____,

Recently the City of Ann Arbor and OHM Advisors kicked off the Lower Town Mobility Study, a transportation system analysis looking to identify mobility solutions for the Lower Town neighborhood based around personal mobility. A more detailed primer on the Study is attached. The first phase of the project is to meet with stakeholders to identify specific concerns and opportunities related to mobility in the neighborhood. Our team has identified you as a stakeholder for the Study and would like to meet to discuss the project and what you think we should consider.

Please reply to this email with your availability to meet during the weeks of November 18th – 22nd or December 2nd – 6th.

The project team members below will be meeting with you to discuss the project and gather your feedback. Feel free to reach out to any of them with questions, comments, or feedback about Study.

- Luke Liu – Project Manager, City of Ann Arbor
- Eric Dryer – OHM Advisors, Planning Lead
- Lauren Hood – Lauren Hood LLC, Public Engagement Lead

Invitees

- Ann Arbor Public Schools
    - Liz Margolis - margolisl@aaps.k12.mi.us
    - Luke Liu – yliu@a2gov.org
- University of Michigan
    - Sue Gott - suegott@umich.edu
    - Sven Sawin - watrous@umich.edu
    - Steve Dolen - scdolen@umich.edu
    - Mike Rein - reinm@umich.edu
    - Luke Liu – yliu@a2gov.org
- Transit
    - TheRide: Matt Carpenter: mcarpenter@theride.org
        - Tim Sanderson: tsanderson@theride.org
    - GetDowntown: Chris Simmons – chris@getdowntown.org
- City of Ann Arbor
    - Planning: Brett Lenart - blenart@a2gov.org
    - Engineering: Raymond Hess - RHess@a2gov.org
    - Administration: Howard Lazarus - shiggins@a2gov.org
    - Sustainability: Missy Stults – mstults@a2gov.org
    - Public Works: Molly Maciejewski - mmaciejewski@a2gov.org

    - Police: Bill Clock - WClock@a2gov.org
    - Fire: Kathleen Summergill - KSummersgill@a2gov.org
    - Parks: Colin Smith - csmith@a2gov.org
- City Council – organize through Sara Higgins – shiggins@a2gov.org
    - Ann Bannister
    - Jeff Hayner
- Regional Agencies
    - MDOT: Kari Martin – martink5@michigan.gov
    - MDOT: Laurent Fournier - FournierL@michigan.gov
    - WATS: Ryan Buck – buckr@miwats.org
- Walking and Biking Groups
    - Washtenaw Biking and Walking Coalition: Erica Briggs – info@wbwc.org
    - Bike Alliance of Washtenaw: Nate Phipps – bikewashtenaw@gmail.com
    - Common Cycle: Clark McCall – info@commoncycle.org
- People with Disabilities
    - PEAC: John Waterman – jwaterman@bikeprogram.org
    - Michigan Ability Partners: Jan Little – jlittle@mapagency.org
    - Ann Arbor Center for Independent Living: Alex Gossage – alex@aacil.org
    - City Commission on Disability: Heather Koch – hkoch@a2gov.org
- Neighborhood Groups
    - Townships
        - Ann Arbor Township: Mike Moran – moran@aatwp.org
        - Superior Township: Ken Schwartz - kenschwartz@superior-twp.org
    - Neighborhood Associations
        - Northside Neighborhood Association: Jeff Kupperman – jeff.kupperman@gmail.com
        - Crossings of Ann Arbor Association: A J Dudus – coa2condopres@gmail.com
        - Traver Street: Mary Underwood – amoscorey@me.com
        - Broadway Area Neighborhood Association: Laura Strowe – leksarts@yahoo.com
        - Riverside Park Place Condo Association: Legacy LLC – jbretz@legacy.services
        - River House Condo Association
        - North Central Neighborhood Association
- Businesses
    - Sic Transit Cycles - 734.327.6900 or Contact Us Page
    - Northside Grill – 734.995.0965
    - St. Vincent DePaul Thrift Store - assistsvdp@comcast.net
    - Broadway Party Store – 734.663.5828
    - Broadway Auto Cars and Sales - broadwayautocare2@gmail.com
    - Format Framing & Gallery - formatframing@gmail.com
    - Yourist Pottery Studio - kay@youristpottery.com
    - Arbor Liquor Store – 734.302.1780
    - Cottage Inn Pizza - 734.995.9101
    - India Café - 734-622-0115 or Contact Us Page
    - Plymouth Mall Merchants Association: Armando Reyes – arking2753@comcast.net

- North Campus Plaza Shopping Center: Sarah Turton – sturton@brodersachse.com

Follow Up Survey for Those Who Couldn't Attend:

- Mike Rein - reinm@umich.edu
- Raymond Hess - RHess@a2gov.org
- Missy Stults - mstults@a2gov.org
- Bill Clock - WClock@a2gov.org
- Ann Bannister - ABannister@a2gov.org
- John Waterman - jwaterman@bikeprogram.org
- Jan Little - jlittle@mapagency.org
- Heather Koch - hkoch@a2gov.org
- Jeff Kupperman - jeff.kupperman@gmail.com
- Coa2condopres - coa2condopres@gmail.com
- Mary Underwood - amoscorey@me.com
- St Vincent DePaul - assistsvdp@comcast.net
- Broadway Auto Care - broadwayautocare2@gmail.com
- Format Framing and Gallery - formatframing@gmail.com
- Yourist Pottery Studio - kay@youristpottery.com
- Armando Reyes - arking2753@comcast.net
- Sarah Turton - sturton@brodersachse.com

Ann Arbor Lower Town Mobility Study

Stakeholder Interview Summary

Throughout December 2019, consultant staff performed a series of stakeholder interviews with groups around Ann Arbor that have a knowledge of the Lower Town area, an interest in improving mobility within the City of Ann Arbor, and/or represent specific interest groups. The OHM team scheduled interviews with 10 different stakeholder groups. The groups were chosen by staff from the City of Ann Arbor and the consultant team to ensure that a broad and diverse representation of all viewpoints was achieved. The stakeholder groups and individuals shown in Table 1 below were interviewed for the Lower Town Study:

Table 1: Lower Town Stakeholder Groups

Stakeholder Group	Date of Interview	Attendees
Ann Arbor City Council	12/2/19	Jeff Hayner
University of Michigan	12/2/19	Sue Gott
		Sven Sawin
		Steve Dolen
Ann Arbor Public Schools	12/2/19	Liz Margolis
		Tina Carmichael
		Meg Fenech
		Carlene Colvin-Garcia
Transit and Commuting	12/5/19	Chris Simmons
		Ken Anderson
Regional Agencies (MDOT & WATS)	12/5/19	Kari Martin
		Laurent Fournier
		Ryan Buck
Neighborhood Groups	12/16/19	Laura Stowe
		Tom Stalberg
People with Disabilities	12/16/19	Alex Gossage
Lower Town Businesses	12/17/19	N/A
City of Ann Arbor	12/17/19	Molly Maciejewski
		Kathleen Summergill
		Hillary Hanzel
		Brett Lenart
		Luke Liu
Walking and Biking Advocacy	12/18/19	Nate Phipps
		Valarie Shinaberger
		Larry Deck

Each stakeholder interview consisted of a small group of individuals, between one and four people in most cases. The number of individuals invited to each stakeholder group interview varied between two and 12, depending on the group. The two Ann Arbor city council members that represent Ward 1 (where Lower Town is located) were invited. The 12 businesses and 10 neighborhood associations located in the Lower Town neighborhood were also all invited, however no representatives from the neighborhood business stakeholder group were able to join. In order to capture as much input as possible from the

stakeholders, the project team will develop a four-question online survey to send to those who were unable to join the interviews. The survey will consist of the same questions asked in the interview.

Interview Results

After meeting with and talking to the diverse group of stakeholders representing the Lower Town Neighborhood, the project team was able to identify some common themes related to mobility in the area. Many of the same issues were raised by each group but opinions varied on how to fix the problems.

Mobility Issues

Traffic

Volume and speed of vehicular traffic are the most common issues heard regarding transportation in the Study Area. A variety of reasons for the traffic were cited by the various groups that were interviewed, including:

- New development and growing population
- Commuters from outside Ann Arbor to University of Michigan Hospital
- A2 STEAM parents dropping off and picking up students
- Fewer walkable businesses
- Disconnected walking and biking facilities

Many of the individuals who were interviewed talked about the traffic problems leading to additional problems in the neighborhood. Groups mentioned that it can be hard to turn or get through certain intersections due to backups, on-street parking in the neighborhood is becoming scarce, and the growing traffic makes walking and biking feel unsafe.

Traffic Safety

The groups interviewed discussed a number of areas in the study area that have traffic safety issues, for both vehicles and non-motorized users. The following areas were identified:

- Broadway St at Plymouth Rd – no buffer between sidewalk and road
- Pontiac Trail at Swift St – speeding drivers hit guardrail, needs traffic calming
- Barton Dr at M-14 – frequent crashes
- Division St at Detroit St – heavy congestion at times, confusing intersection design and related signage
- Moore St/Pontiac Trail/Longshore Dr signals are confusing to navigate through
- Pontiac Trail at Barton Dr – perceived as a dangerous intersection by non-motorized users
- Barton Dr near M-14 – street is narrow, pushes cyclists to sidewalk
- Division St at Broadway Bridge – vehicles speeding, bike lane ends abruptly, vehicles coming up Carey St can't see bikes

Traffic Speed

Most of the individuals interviewed cited vehicle traffic speed as an issue through the neighborhood. Issues depend on the area in the neighborhood, the time of day, and amount of congestion. At certain times of the day, in certain areas, vehicles travel too fast. Stakeholders identified Pontiac Trail, Barton Drive, Plymouth Road, Division Street, and Broadway Street as roadways where motorists are driving too fast. During the peak travel period, these same streets can have very slow traffic speeds causing

backups through the neighborhood. Interviewees are concerned about fast moving vehicles as this poses a safety risk to non-motorized users and children in the area.

New Development

Lower Town has seen a huge influx of development over the past few years, especially north of Barton Drive along Pontiac Trail. A large new development is currently being constructed at Broadway Street and Maiden Lane. Stakeholders are concerned about the new developments in a variety of ways. The new developments have reduced parking requirements, with the aim to reduce car ownership by making it harder or more expensive for residents to park. However, many of the new residents are parking an additional car on other neighborhood streets for free, limiting parking for the people who live on the street.

A common issue heard from the stakeholders is that although development is high density, no additional retail has been added to the neighborhood. This means that residents must drive to take care of many basic daily needs. Many residents get stuck in traffic traveling to the grocery because they are competing with commuters, school drop offs and others who are moving through the neighborhood. True mixed-use development connected to the surrounding neighborhood may help relieve congestion for residents.

Limited Access to New Developments

The new developments along Pontiac Trail, north of Barton Drive, that consist of townhouses, duplexes, and other higher density residential housing types have been constructed without being connected into the existing street grid, only to the main streets. This forces residents to use the same major roadways that everyone is using rather than distributing through the neighborhoods, increasing traffic on the main streets.

Commuting

Many employees working downtown and at the University of Michigan Hospital use Barton Drive, Pontiac Trail, and Plymouth Road as main routes to and from work. These routes have become highly congested during the peak commuting times and is exacerbated during school drop off and pick up times at the A2 STEAM school. The essential cause of this is due to the limited crossing points of the Huron River. Additionally, many employees working at the Hospital park in the Lower Town Neighborhood and walk to work, limiting parking for the residents of the street.

Bicycle and Pedestrian Connectivity

Many stakeholders discussed the lack of connectivity between existing sidewalks, bike lanes, and non-motorized trails. This is a major impediment to encouraging bicycle and pedestrian travel because those who are interested in non-motorized travel may not feel comfortable or safe using the areas lacking facilities. This also leads to safety issues with pedestrians walking in the street and bicyclists switching between dedicated bike facilities and riding in the travel lane. Some intersections are lacking in safe and visible crossing infrastructure as well.

Pedestrian Safety Around A2 STEAM

The A2 STEAM school is located in the neighborhood and many parents and teachers are concerned about the safety of students accessing the school. Since becoming A2 STEAM in 2014, the school has

gone from about 200 students and staff to 635. The school is a magnet school and students from all around Ann Arbor attend, meaning there are a lot of pick ups and drop offs that happen each day. Parents are now encouraged to drop students off at lots near the school where they can easily walk over. Some of the streets adjacent to the school are lacking connected sidewalks which can pose safety hazards for young children walking to school, especially with the commuter traffic through the neighborhood. School officials and parents successfully applied for and received a Safe Routes to School infrastructure grant for sidewalks but were unable to construct any sidewalks due to neighborhood resident backlash.

Public Transit

Most of the stakeholders view public transit as a viable option to reduce single occupancy vehicle trips in the area, but the service offered by TheRide and the UM bus service is not as convenient or frequent enough to encourage more people to stop driving. Some of the issues with transit service in the neighborhood are related to traffic on Pontiac Trail and Plymouth Road, which slows buses down and makes trips inconvenient. Other issues were related to the lack of coordination between UM and TheRide in regard to route and schedule planning.

Other Issues

There were other issues heard from those interviewed that were not as universal as the previous statements but are still important. The following comments below were mentioned by multiple groups interviewed:

- Argo Pond & Cascades area parking in the summer overwhelms neighborhood and creates pedestrian safety hazards
- Snow removal and trash pickup on streets with bike lanes can be difficult
- Steep grades at certain areas in the neighborhood can make cycling and walking more difficult, especially for those with mobility restrictions

Opportunities

Most of the opportunities discussed by the groups interviewed centered around the need to increase travel using alternative modes of transportation (walking, biking, public transit, carpool, etc.) to reduce traffic in the neighborhood. Many of the residents of the study area are interested in using other modes of transportation but either find travel not convenient enough or are not entirely comfortable with the trip.

Public Transit

There are a number of AAATA transit routes that travel through the study area, specifically on Plymouth Road and Pontiac Trail. Interviewees mentioned that more frequency of service, more direct routing, and upgraded amenities like shelters would help encourage residents to use transit more often. TheRide is currently looking at implementing Transit Signal Priority along Plymouth Road to speed up service.

Enhanced Pedestrian Connection to Hospital

Maiden Lane is a major connection point to the UM Hospital Complex, especially for pedestrians. A large number of hospital employees live in the Lower Town area and walk to work. Additionally, two new parking garages on Maiden Lane provide parking for hospital employees. The small sidewalks, steep hill,

bridge and busy crossings make this street less than ideal for pedestrians. Improving the comfort of the street may help encourage more pedestrian trips and a more comfortable last mile trip from a nearby bus route to the hospital.

Non-motorized Connections

The Lower Town area contains many bicycle and pedestrian facilities that make up the greater non-motorized network. There are opportunities to better connect the existing facilities to provide seamless connections between the activity centers in Lower Town. Many of the missing connections exist at the Plymouth/Maiden/Pontiac Trail intersection, which is not a comfortable place to ride a bicycle. Additionally, a non-motorized connection to the Border to Border trail at Fuller Rd is needed. Improving these connections with safe, visible infrastructure could help encourage more non-motorized travel.

Maximize Comfort of Bicycles and Pedestrians

Building upon the opportunity for improved non-motorized connections, many of the interviewees mentioned that maximizing the safety and comfort for non-motorized users will help encourage walking and biking. The goal is to get the people who are "interested but concerned" about a walking or biking commute to feel safe and comfortable while traveling by introducing more protected facilities and seamless connections.

Transit-Oriented, Mixed-Use Development

Many of the groups were concerned about the lack of retail development that is available in the Study Area. An opportunity that was brought up many times was incorporating true mixed-use buildings into these developments that would allow for additional neighborhood retail. Pairing mixed-use with transit-oriented development design principles could help encourage more walking, biking, and transit trips and help reduce traffic.

Contextual Information

The following comments related to the existing mobility issues and potential solutions were made by the interviewed individuals as context for the discussions:

- Pontiac Trail residents living on Township parcels have issues with sidewalk maintenance and do not plow or remove snow, which discourages pedestrian use
- Lower wage workers can't afford to live in Ann Arbor and need to drive to work which is causing congestion during commute times
- Rapid growth at the A2 STEAM school is contributing to congestion
- People perceive vehicle issues as the #1 safety concern and overlook safety of children walking and biking
- Lack of true mixed-use development is causing distrust from residents and leading to congestion
- There is little collaboration between UM and TheRide transit agencies
- A paradigm shift is needed to get people out of their cars – better non-motorized and transit facilities may help
- Safety is a unifying message and can help justify otherwise contested measures like speed reduction, sidewalk connections, and bike infrastructure

Online Engagement

The Lower Town Mobility Study interviews were not attended by all of the identified stakeholders and as a way to gather additional information from the public, the project team developed an online version of the interview questions and sent them to those stakeholders that missed. The project team used Survey Monkey to pose the same questions asked in the interview to the remaining stakeholders.

Four additional stakeholders responded, and their responses are displayed below.

- What are the most important issues that exist in Lower Town?

ANSWER CHOICES	RESPONSES	
Vehicle Traffic	75.00%	3
Vehicle Speed	50.00%	2
Bicycle and Pedestrian Connectivity	50.00%	2
Bicycle and Pedestrian Safety	25.00%	1
Traffic Safety	25.00%	1
Commuting	0.00%	0
Public Transit	50.00%	2
New Development	0.00%	0
Total Respondents: 4		

- What other existing transportation issues do you see in Lower Town? (open ended)
    - Walkability
    - In my opinion, we are getting too much dense development in this traffic flow challenged area. U/M building more and more parking structures is NOT helping.
    - Stopped at lights with no crossing traffic.
- What opportunities do you see to improve transportation conditions in Lower Town?
    - More bike lanes - less requirements for parking - greater transportation options.
    - Keep the train station where it is, so those arriving and departing from the station don't have to negotiate the mess on Broadway/Maiden Lane/Fuller. Support the light rail bills coming up for a vote. We must have more effective, safe, and responsive traffic lights/ped. crossings. What about closing off Maiden Lane so it doesn't connect Plymouth Rd. with Fuller? Have it open to Fuller, but close it off at Broadway. No round about please!!!!! That will NOT make bike/ped transit safe.
    - Vehicle congestion.
- What goals do you have for this project?
    - Greater walkability and higher quality of life for the region
    - Look at this from the view of the pedestrian first. If this doesn't work for pedestrians you will never achieve a goal of less vehicular traffic. This city is paying taxes to subsidize U/M caused traffic messes. They need to step up more. We need safe passage for pedestrians and cyclists from housing area to town in all directions.
    - Less vehicle traffic.
- How can you or your organization assist in the development of the study?

- I live here and walk lots. Ride my bike lots. Use buses a lot. And drive. The intersection of Maiden Lane/Moore/Broadway/Plymouth is very dangerous -- I've witnessed as many as 3 near misses with cars trying to make turns on a Sunday morning in just a 15 minute time. Please ask residents who live in the apartments on Wall Street and Maiden Lane to participate. Put flyers in their doors. Whatever you must do. These folks are held hostage to commutes at both ends of the day. Why not just close off Wall Street and Maiden Lane at the west end to through traffic? That would stop much of the mess for people living on those streets. Please do lots and lots of planning and walking on foot on site.
- Surveys like this.

Lower Town Survey Summary

Question 1: How often do you travel through the Lower Town area?

- Daily- 52.6%
- Weekly- 33.1%
- Monthly- 13.6%
- Annually- 0.6%

Question 2: Do your trips typically start or end in the Lower Town Area (in pre-pandemic times)?

- Entire trip typically begins and ends in the Lower Town study area- 16.2%
- Trip typically begins in the study area, but ends outside of the study area, or vice versa- 27.6%
- Trip typically passes through a portion of the study area, but does not begin or end in the study area- 53.6%
- I typically do not travel in the study area- 2.6%

Question 3: How do you typically travel through the Lower Town area?

- By car- 48.4%
- By walking- 17.5%
- By bicycle- 22.4%
- By public transit- 3.2%
- Other- 8.4%

Question 4: If you have traveled through the Lower Town study area by car, what issues have you experience?

1.	Congestion	113
2.	Speeding	40
3.	Signal timing	37
4.	Confusion	20
5.	Aggressive driving	13
6.	Sight distance	12
7.	Plymouth Rd, Maiden Ln, Broadway, Moore, and Pontiac	9
8.	Drivers unaware of one-way's	4
9.	Cyclists don't use bike lanes and can be hard to watch for	4
10.	Poor pavement quality	4

Questions 5: If you have traveled through the Lower Town study area as a pedestrian, what issues have you experience?

1. Lack of sidewalks or accessible sidewalks 48
2. Vehicles do not stop for pedestrians attempting to cross 35
3. Speeding concerns 24
4. Long wait time to cross 11
5. Obstructions such as snow and vegetation are in the way 8
6. Needs to be more lighting 7
7. Sidewalks are not wide enough 5

Question 6: If you have traveled through the Lower Town study area by wheelchair, what issues have you experience?

1. Obstructions such as snow and vegetation are in the way 5
2. No safe access to the park area 1

Question 7: If you have traveled through the Lower Town study area as a bicyclist, what issues have you experience?

1. Need more biking infrastructure 50
2. Speeding 35
3. Obstructions in bike lanes 22
4. Crossing the Broadway bridge 19
5. Poor pavement conditions 8
6. Vehicles pass too closely 6

Question 8: If you have traveled through the Lower town study area by public transit, what issues have you experienced?

1. Needs to be more regular and frequent 22
2. Bus routes do not go to wanted destination 10
3. Long wait times at bus stop 8
4. Long wait times stuck in traffic 7

Question 9: Which spots do you consider to have good conditions and which spots are problematic for you when traveling in the Lower Town area?

1. The trial around the cascades and the boardwalk are popular sites that were noted as in good condition
2. Pontiac Trail was liked for the bike lanes, speed limit, and good road conditions
3. The Broadway bridge was identified as a problematic area
4. The intersection of Division, Broadway, Summit, and Detroit was identified as problematic
5. The intersection of Moore/Maiden at Plymouth was deemed problematic

Question 10: What ideas do you have to improve mobility in the Lower Town area?

1.	Traffic calming to reduce speeds	20
2.	Make the pilots from last summer permanent	15
3.	Safer pedestrian crossings	11
4.	Close the Barton entrance to M-14	6
5.	More law enforcement	6
6.	Add a roundabout at Plymouth, Broadway, Moore, and Maiden	5
7.	Add protected bike lanes	5
8.	Create pedestrian and cyclist bridge	3
9.	Add a park and ride	2
10.	Establish a pickup/drop off for the school	2

Detailed Survey Responses

For question #4, the leading concern was congestion. Congestion is extremely common in Lower Town, but some areas of specific concern are Broadway at Maiden, backups along Division, Plymouth at Maiden, the Broadway Bridge, and the Plymouth/ Maiden/ Broadway/ Moore/ Pontiac Trail area. The next most popular response was speeding. Many people claim that the way the roads are designed results in drivers speeding often without realizing it. Speeding along Division and Pontiac Trail were two of the most common answers. The Broadway Bridge is another common spot where people drive over the speed limit. The third highest response had to do with signal timing. People claimed to have to wait several cycle lengths before being able to proceed through the intersection. Turning left onto Broadway from Pontiac Trail, Swift at Broadway, Broadway and Moore, and Fuller at Maiden are a few of the problem places.

Question #5 asked about the issues experienced from a pedestrian point of view. The most frustrating issue was that a lot of sidewalks abruptly ended or that there was not any sidewalk available. The lack of sidewalk on Traver Road was an extremely common response. There is also no sidewalk on Pontiac Trail north of Arrrowwood, on the north side of Plymouth between Barton and Maiden Lane, near the Broadway/Plymouth intersection with Maiden Lane, on the north side of Barton, on the west side of Plymouth starting at Pontiac Trail, along Pontiac between Moore and Swift, near Northside school, on Jones Drive, and near the boardwalk along the Huron River. Another common issue was that vehicle do not yield for pedestrians crossing the street. Many pedestrians complained about being almost hit or being pressured by advancing vehicles. A problem associated with this, is that drivers were not always able to see pedestrians until partially through their turning movement. Lastly, speeding concerns were yet again a problem. Many people do not walk as often as they normally would, due to feeling unsafe. There are also several children in the area, and their parents do not feel comfortable having them walking outside due to the excessive speeds of drivers. This also leads back to the lack of sidewalks. People often have to walk in or near the street when a sidewalk ends.

Question #6 asked what issues were experienced for those in a wheelchair. Unfortunately, there were not many responses to this. Those that did reply, however, complained about obstructions in their way. It was stated that snow and vegetation were two common problems limiting their travel. With snow, some businesses never cleared their sidewalks. A different problem is that snowplows that came to clear the streets end up covering the sidewalks back up.

Question #7 asked about the issues associated with cycling through Lower Town. The lack of infrastructure specifically for cyclists was the number one problem. Many people wished there were more protected bike lanes. Additionally, there were many instances where bike

lanes would end and put the cyclists in a difficult position. Having no bike lane on Plymouth Road was the top concern. This also relates to the second issue, speeding. Cyclists often do not feel comfortable being so close to vehicles moving at fast speeds. The third issue was that the available bike lanes were cluttered with obstructions. The most common obstructions included: trash bins and parked cars. These obstructions often cause cyclists to transition to riding in the busy street.

Question #8 asked the public's opinion regarding public transit. The most common request was for the transit system to come more frequently. Many people seemed open to using the transit system if this problem could be resolved. Along with this, people wanted the wait times at the stops and the travel times on the buses to be reduced. There were also a few instances where the bus does not go to a preferred destination. Downtown campus, closer to housing near Dhu Varren, Kerry town, the hospital, and Kroger were several requested locations for future bus stops.

Question #9 gave the survey takers the opportunity to select areas that were deemed as problematic off of a map. Division starting from Huron, on the southern end, to Beakes on the northern end, was a common problematic area for people. A lot of comments were made around the intersection of Division, Broadway, Summit, and Detroit. Broadway was also a highly problematic street, especially the area near the Broadway Bridge. The intersection of Moore/Maiden at Plymouth was also an area of concern. Other than those areas, Barton, Pontiac Trail, and Plymouth roads were deemed as problematic. At the intersection of Division, Broadway, Summit, and Detroit, most of the comments revolved around pedestrian and cyclist activity. It appears as though drivers were often confused as to where to look for pedestrians and cyclists. There was also a comment stating that the crosswalks were not clearly marked. There were several concerns regarding the Broadway Bridge including: slippery conditions for pedestrians, congestion, safety concerns, and a need for a bike lane across the bridge.

Question #9 also gave people the opportunity to identify areas that are in good conditions. Several people liked the recent improvements that were made to the intersection of Moore/Maiden at Plymouth. In particular the addition of turn lanes and crosswalks were mentioned. Although not a main street, people really enjoy the trail around the cascades. The boardwalk was another popular spot. Additionally, people liked the bike lanes, road conditions, and speed limit of Pontiac Trail.

Question #10 led to several possibilities. The most common response was for traffic calming measures to be implemented to help reduce speeds of drivers. Several suggestions such as interactive speed signs, speed bumps, flashing beacons, refuge islands, HAWK signals, bump outs, and a road diet were among the options. Another popular request was for the pilot program from over the summer to come back. Many people had great experiences with the program. Lastly, people wanted for there to be safer crossings. This could be done by adding zebra pavement markings at intersections, introducing additional signage, and adding push buttons to busy intersections.

Summary of Lower Town Mobility Study Presentation - Public Meeting of 7/29/2020

WELCOME!

The Lower Town Area Mobility Study Meeting Will Begin Soon.

Technology Overview – Things to Know

- To help prevent "Zoombombing," (when an unauthorized person or stranger joins a Zoom event and says offensive comments or shows offensive images), the video, speaking, and screen sharing functions are available to presenters, but disabled for participants.
- You can communicate through the Q&A feature.
- You can leave and rejoin the meeting at any time (unless the meeting is at capacity or you are removed for inappropriate behavior).
- Multiple opportunities for questions will be provided throughout the presentation.
- Presentation and additional materials are available at **www.a2gov.org/lowertown**

i

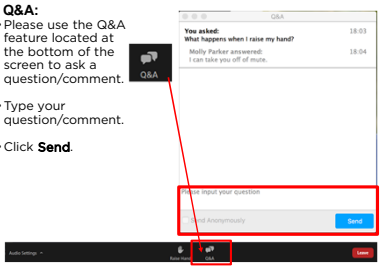
The following 5 slides were displayed prior to the start of the presentation. They were to inform citizens on how they could participate and ask questions during the course of the meeting and explain the meeting norms.

Technology Overview – Ask a question/share a comment

We will be using the Q&A feature for those using a computer and the Raise Hand feature for those who are on the phone.

Computer

Q&A:
- Please use the Q&A feature located at the bottom of the screen to ask a question/comment.
- Type your question/comment.
- Click **Send**.



Phone

Raise Hand:
- Select *9 to raise your hand
- You will be identified by the last 3 digits of your phone number

ii

Zoom Meeting Norms

- Commit to learning and avoid speculation – we encourage you to ask questions through the chat feature so we can explore the issue together.
- When speaking over the phone, please move to a quiet area and silence any background sounds. We want to be sure that we hear what you are saying.
- Please remember the importance of rights and the dignity of others. With that, we ask that you:
  - Critique ideas, not people.
  - Are thoughtful about your language so this can be a comfortable and respectful forum for all participants - inappropriate written and/or verbal comment or language, including personal attacks and accusations, will result in the attendee being removed from the meeting.

iii

Public Engagement Outreach Survey

Thank you for participating with the City of Ann Arbor. The city is trying to gain a better understanding of who we are reaching to find ways we can continuously improve public engagement efforts and support inclusivity. To help us gain this understanding, please complete this brief, anonymous survey. This survey is completely voluntary; you are not required to fill it out.

To fill out the survey, please visit: **https://bit.ly/2X7LDxW**

iv

Follow-up Expectations

- Meeting summaries will be posted by Monday, August 10th on the project website.
- Your feedback will be considered in addition to technical and cost considerations for the recommendations of this study.

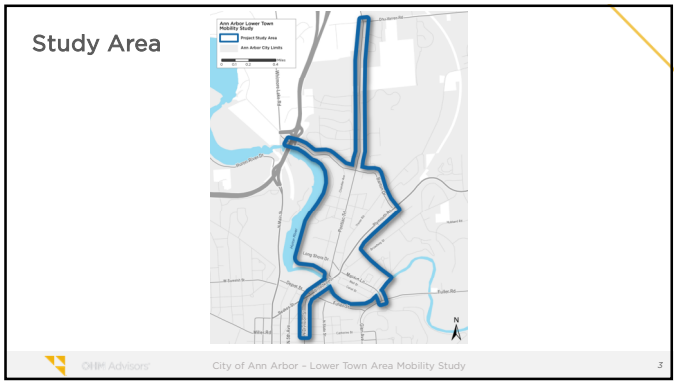
v

City recognizes there are challenges in the Lower Town area, and there are development projects underway which will bring challenges to traffic safety, congestion and mobility. City Council wants to mitigate these concerns and directed staff to identify the scope to conduct an area-wide analysis of the mobility needs of this area.

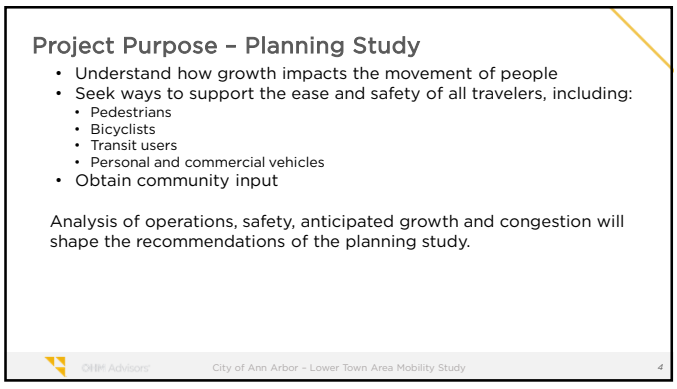
This is the first of four public meetings for this study.

Self-introductions were made by the principal members of the study team:

+ Luke Liu, City of Ann Arbor, City Project Manager
+ Stephen Dearing, Quality Control Reviewer
+ Lauren Hood, Facilitator and Public Engagement
+ Steven Loveland, Team Project Manager

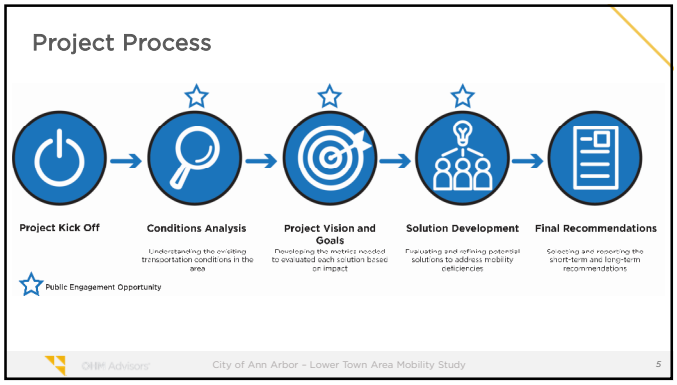


The study area is depicted as the dark blue outline on this map. The northern limit is Pontiac Trail at Dhu Varen. To the west is Barton Dr at the M-14 interchange and we follow Barton east to Plymouth Rd. Looking to the south, we include Division St starting at Catherine St. Following it north, it includes the area north of the Huron River, as well as the intersection of Maiden Lane at Fuller Rd by the U of M Hospital.



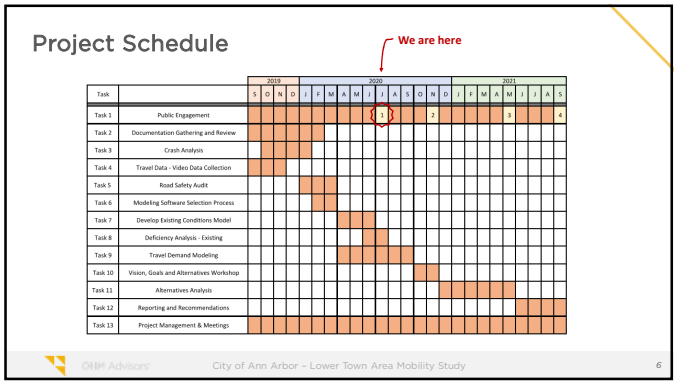
This is a planning study, which is intended to lead to a plan for recommendations of long term improvements to the Lower Town area.

Throughout the study, we will be seeking community input in this and subsequent meetings.



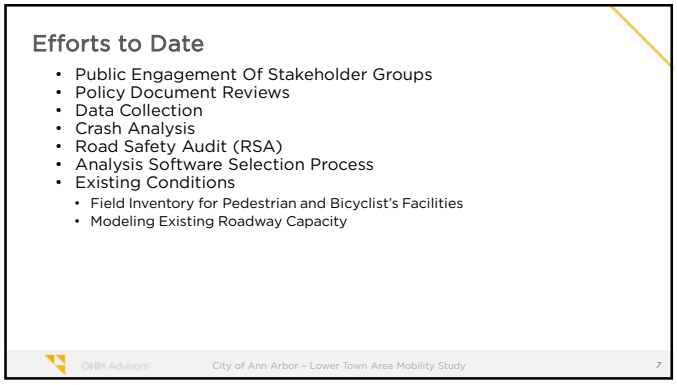
The project process is shown on this slide. We kicked off the study with an internal team meeting and then progressed to the stakeholder meetings to better understand the existing conditions and concerns of the study area.

We are currently in the Conditions Analysis phase, which includes a Road Safety Audit of all the streets in the study area, a pedestrian and bicycle facilities assessment, existing conditions travel modeling, and origin-destination information.



Looking at the project schedule, Task 1 is Public Engagement and is ongoing throughout the project. Tasks 2 through 6 are completed. We are nearing completion of Tasks 7 and 8, Developing the Existing Condition Model and Deficiency Analysis, and have begun Task 9 for the Travel Demand Modeling.

Ultimately, the study will be wrapping up in late 2021.

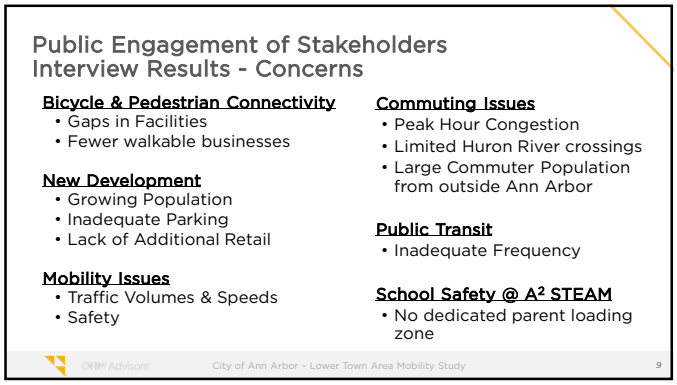


These are the items we have finished or are currently working on to date.

We will go into more depth on each of these in the coming parts of our presentation.

In December 2019 we interviewed a group of people representing these agencies and organizations. They were chosen in conjunction with city staff from a data base the City has.

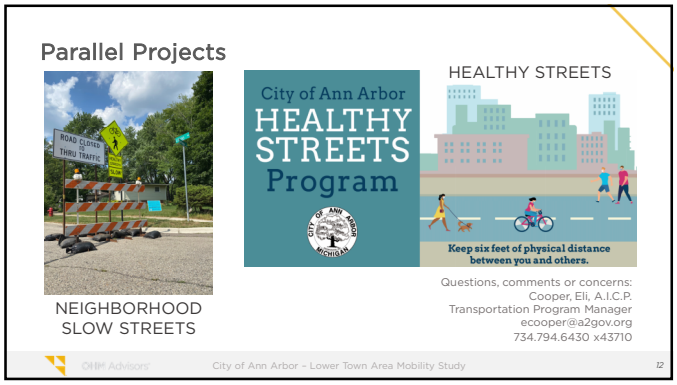
Actual attendance was a bit more modest than the number invited, but those attending adequately represented the cross section of interests we were hoping to hear from.



This shows some of the concerns we heard from the stakeholders. There is a really comprehensive document cataloging in detail the information learned. A copy has been placed on the City's web page for this project.

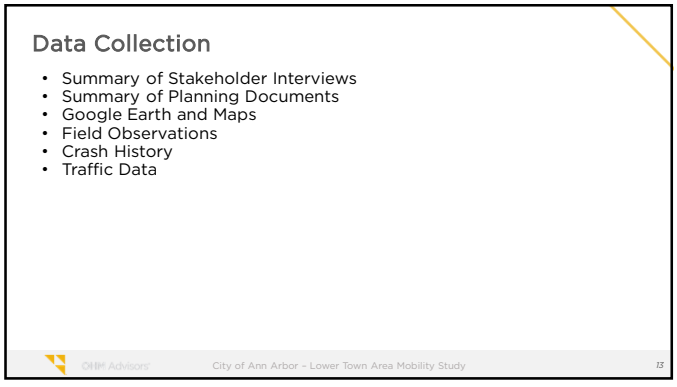
Of the many comments received that identified opportunities for improving the Lower Town area, three themes predominated, but all were focused on reducing dependency on the use of personal cars.

Ann Arbor has been focused on safety & mobility for many years. These concerns have been incorporated into many of the policy documents; a reflection of the goals and aspirations of the City. One of the tasks of the project was to review all of these listed documents to see how they discuss the Lower Town area and its needs. We were looking to inform our team of the community's values and expectations. A synthesis report was provided to our project team and a copy is available on the City's project web site.



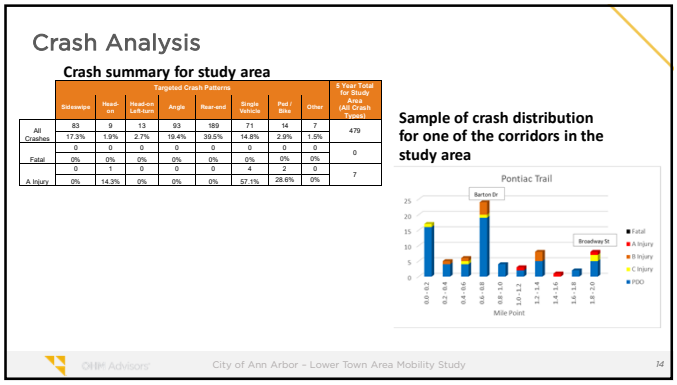
While some of the policy documents may be a decade or more old, we are aware that the City is always exploring ways to make improvements that conform to the challenges that are currently facing the community. So city staff made sure we were made aware of some new initiatives being taken in response to the Covid-19 pandemic. These are separate efforts and are not part of our study.

More information on the City's Healthy Streets program can be found on the City's web site or by reaching out to the City's Project Manager, Mr. Eli Cooper.



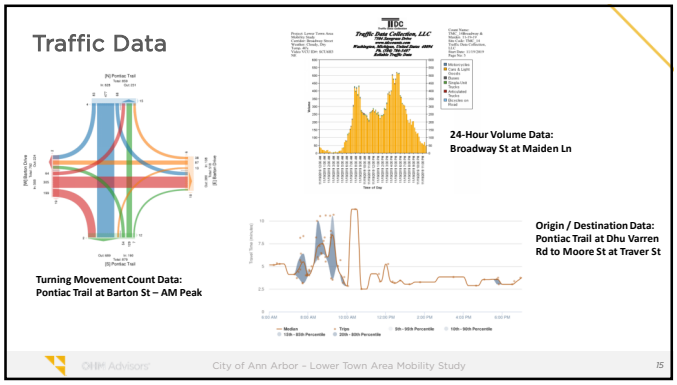
One of the initial tasks was to undertake a robust data collection effort. The stakeholder interviews and summarizing the various planning documents have already been described. The use of aerial photography and field reviews will more fully be describe a bit later. Want to focus next on the crash and traffic data that was obtained and evaluated.

We collected 5 years of crash data for the study area, encompassing 2014 through 2018. This data is summarized in the table here shown. Fortunately, there were no fatalities in the area. The number of serious injuries was 7, of which 2 involved pedestrian.



We use graphical displays of the crash data to help identify concentrations of crashes. This is a sample; it depicts that most of the crashes are occurring at intersections, which is typical. All of the data and summarizing tables and charts were compiled into a report provided to the members of the Road Safety Audit team.

One of the key findings involved the number and complexity of crashes at Broadway / Division / Beakes. This led to looking at mitigations for the crashes. The City will be further evaluating this location for possible solutions.



We collected a variety of traffic data at locations throughout the Lower Town area. This included turning movement counts, 24-hr volume counts and origin-destination data. Like crash data, we use graphical displays of the traffic data to help us understand the patterns behind the raw numbers.

Beyond these basic data types, this area has other complications we needed to understand, such as a busy magnet school and an active freight railroad train that runs through the area. The point is that we have been able to collect and use such data to better understand how the road network is working.

A Road Safety Audit (RSA) for the study area was performed over a 2-week period in February. Used a multi-disciplinary team to consider the safety of all uses: pedestrians, bicyclists, transit uses and drivers. It identifies risks to these groups and suggests mitigating measures.

While the Lower Town Mobility Study has a long term focus, the RSA was intended to look for near term fixes the City could implement quickly and cheaply.

Conducted Field Visits

- Walked it
- Drove it
- Made day and night visits
- School review
- Lots and lots of pictures!

The RSA team, augmented by city staff, did a comprehensive review of the entire study area. Were searching for both the good and the bad aspects of the roadway network.

POSITIVES

- Bicycle infrastructure
- Sidewalk condition
- Leading Pedestrian Interval at Barton/Pontiac Trail
- ADA on-street parking at Northside Grill
- Bus stops with pad/bus pull-off
- Lighting
- School features

We noted quite a few positive aspects during our field reviews. These will be illustrated in the next several slides.

POSITIVES – Bicycle Infrastructure

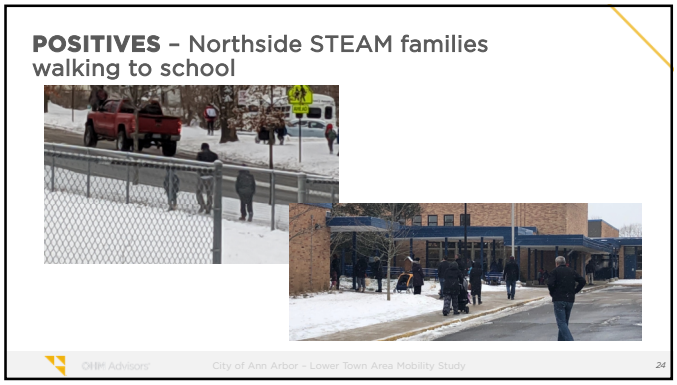
On the topic of bicycle infrastructure, we saw that there were bike facilities in many areas of Lower Town. We noted on-street bike lanes, sharrows and other pavement markings to delineate bike usage.

Sidewalks were in generally good condition, with many instances of recent replacements and repairs to keep them in compliance with Americans with Disability Act (ADA) standards.

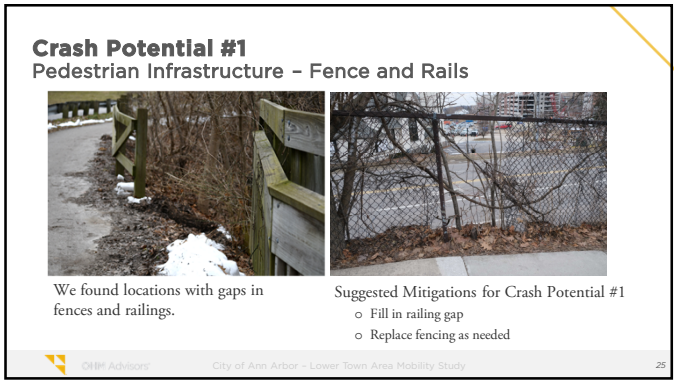
Also the efforts to provide ADA compliant curb ramps was apparent. Rather than only relying on off-street parking, we noted the on-street handicap parking stall provided in front of an active Lower Town business.

Another positive example is the bus stop along Pontiac Trail, with a bay to remove the bus from the active traffic lane, and concrete pad and shelter for transit users waiting for the next bus to arrive.

The lighting in the Lower Town area is generally good, with lighting provided along most all of the key roads within the study area.



We also found that there were many families attending Northside STEAM school who accompanied their children walking to and from school.



Now we are going to start looking at some of the problems we noted. Many were issues that could be fixed in the near term.

Crash Potential #1
Pedestrian Infrastructure – Pathway Sight Distance

Hidden access to boardwalk along Barton Drive.

Suggested Mitigations for Crash Potential #1
- Clear brush
- Provide warning

In this particular case, there is a mid-point pedestrian connection to the pedestrian boardwalk along the western portion of Barton Dr. The heavy vegetation contributes to drivers not being able to see that this connection exists.

Crash Potential #1
Pedestrian Infrastructure – Cascades Access

Pedestrians must cross Broadway to get to the Cascades when parking along Wall Street.

Suggested Mitigations for Crash Potential #1
- Provide shortened pedestrian wait times

We noted that during busy times, visitors to the Cascades will park south of Broadway and then be delayed in crossing at the signal with Swift St. So we are recommending that the city look at shortening the wait times at the signal.

Crash Potential #2
Speed Management – Broadway Bridge

High speeds coming down off either end of Broadway Bridge.

Suggested Mitigations for Crash Potential #2
- Provide electronic speed warning systems on each end

The last few slides dealt with issues involving pedestrian facilities. Turning now to traffic operations and safety concerns, we noted that vehicle speeds were elevated coming off the Broadway bridge. Hence the recommendation for electronic speed warning systems.

Crash Potential #3
Traffic Congestion – Broadway EB (PM)

Traffic heading EB backs up from Maiden Lane onto Broadway Bridge.

Suggested Mitigations for Crash Potential #3
- Review and adjust signal timing
- Reduce pedestrian wait time on weekends

In this example, there is some congestion on Broadway, with backups from the signal at Maiden Lane / Moore St. Adjusting the signal timing may help for weekday commuting peaks, while reducing pedestrian wait times are valuable for the weekends.

Crash Potential #4
Bike Infrastructure – Transitions

Transition from bike lane to path over bridges
- Broadway and Beakes/Division

Bike lanes ending
- Barton Dr at Pontiac Trail
- NB Division approaching Broadway

While the bicycle infrastructure in Lower Town was good, we found instances of where bike lanes ended or the connections to off-street paths were poor to non-existant.

Crash Potential #4
Bike Infrastructure – Transitions

Suggested mitigations for Crash Potential #4
- Provide a ramp for bikes between path and bike lane
- Extend bike lane with dotted line (S. 7th Street) or use sharrow through intersection
- Signs – Share The Road/Bike Lane Ends

The mitigations for these types of issues is to provide better signing and offer transitions where alternatives exist.

Crash Potential #5
Traffic Control Devices – Signs

- Sign Location
- Sign Maintenance

Suggested mitigations for Crash Potential #5
- Sign inventory and upgrade as needed

In some cases, it was just an issue of poor sign placement or signs exceeding their effective lives.

Crash Potential #5
Traffic Control Devices – Pavement Markings

- Inconsistencies in treatments.
- Old markings not fully removed showing mixed message.

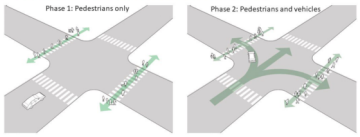
Suggested Mitigations for Crash Potential #5
- Survey to identify markings to be corrected or replaced

Pavement markings also needed attention in some cases. By cleaning up some of these discrepancies, it makes it clearer to drivers (and other) what the intent is.

Crash Potential #5
Traffic Control Devices – Signals

Location of the crosswalk at Catherine and Division makes it difficult to see pedestrian

Leading Pedestrian Interval (LPI)



- Activate ped signal 3-7 seconds prior to green light

Suggested Mitigations for Crash Potential #5
- LPI has been implemented through the city

In the specific case of Catherine at Division, the irregular shape of the intersection could result in turning traffic not being fully aware of pedestrians crossing 'on the green' as they should.

After making a recommendation for using a Leading Pedestrian Interval (LPI) here, we learned that the City has started using LPI at signals through out the city.

Other Items Considered

Parking
- Bus Stop on Broadway

Suggested mitigations
- Remove the parking in this area

There were other smaller issues we noted. In this instance, an on-street parking stall coincided with a bus stop. Removing this one parking stall improved access for buses.

Other Items Considered


Light out on Plymouth Road


Side Path in depressed section along Plymouth Road

Lighting
- Fuller/Maiden Lane intersection *(lights set back from crosswalks)*
- Pontiac Street *(Moore to Swift is dark)*

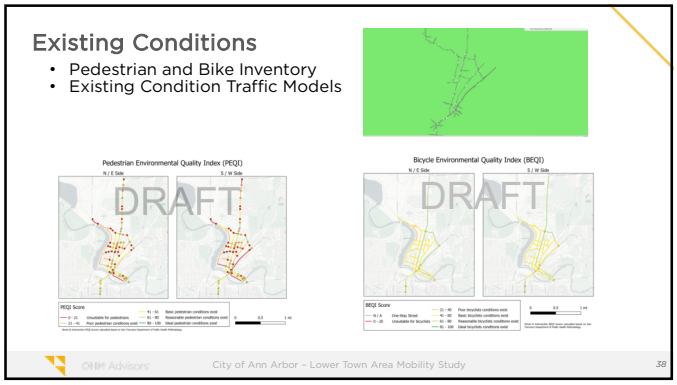
While street lighting was a positive through most of Lower Town, we noted any lights that were out, or where the vehicle-level lighting was not adequate for pedestrians.

Selection of Analysis Tools

Goals:
- Identify the tools that allow Ann Arbor to understand the pressures, causes and challenges to mobility in the Lower Town Area.

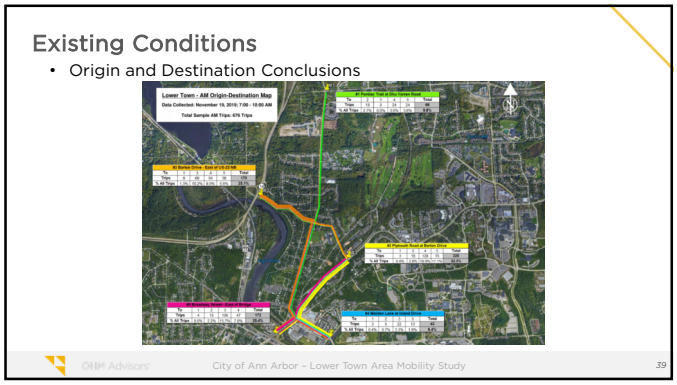
Objectives:
- Evaluate and select modeling software that analyses multi-modal mobility for pedestrian, bicycle, transit, and vehicular traffic. The project team worked together with MDOT, WATS, and SEMCOG to determine the tools to use for the planning study.

Moving on to another task in the study, we helped identify the tools best suited for use in our study as well as the future use by city staff for the analysis and evaluation of multi-modal mobility needs.



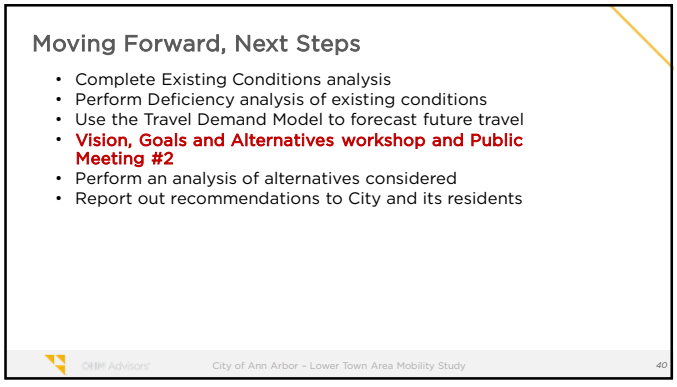
The selected analysis tools were then used by the team in looking at the Lower Town area. For example, for pedestrians, the Pedestrian Environmental Quality Index (PEQI) had us then look at whether sidewalks are present, their width, how far removed from the vehicle travel lane, are the sidewalks maintained and clear of vegetation, etc. This requires an inventory of every segment of road and every intersection. We are almost done with both the pedestrian and bicycle facility inventory and analysis.

The other facet is modeling the existing condition vehicle operations. This looks at the key roadways in the network. This gives us a baseline for evaluating any alternatives as we go forward in the study.



Origin-destination data has been mentioned a few times. We set up stations for the major entrances to Lower Town, so we could determine where traffic is coming from and going to.

One of the things we learned is that in the a.m. commuter period, 84% of all the traffic entering the area is coming from Plymouth Rd at Barton Dr, Barton at M-14 and north across the Broadway bridge. The single biggest movement (19%) was entering on Plymouth then turning left on Maiden Lane and heading to the hospital.



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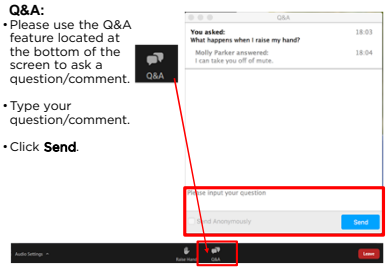

Phone

Raise Hand:
- Select *9 to raise your hand
- You will be identified by the last 3 digits of your phone number

41

At various points in the presentation, the public was offered an opportunity to ask questions. These questions and their answers, as well as the ones received after completion of the presentation, are summarized starting on the next page.

Public Engagement Outreach Survey

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Thank you!

Phone: (734) 794-6410 ext. 43637

Email: yliu@a2gov.org

Project Website: www.a2gov.org/lowertown

Lower Town Mobility Study - Public Meeting #1 Q & A

#	Question	Answer(s)
1	Can you guys post the survey code again? I didn't get it in time. Or put it on the lowertown website?	Yes, absolutely. **https://bit.ly/2X7LDxW** My apologies that it is not an easy link to remember. We will get that fixed going forward.
2	With regard to people's belief that transit is a way to address travel demand, I would ask if there has been any comparison between "stated preference" and "revealed preference" when it comes to transit. In other words, do people say they'll use transit but then don't once it gets built?	We understand that there is a perception that when people say they want more transit, it's for someone else, not themselves. While a real concern, in a socially and economically mobile community like Ann Arbor, transit is valued. Increases in routes or frequency will likely be reflected in increased ridership. Ann Arbor already shows a higher transit usage than neighboring communities, so is a feasible way of addressing congestion concerns.
3	Last year the city council voted down a state grant for sidewalks on Traver. Does that mean you are not considering the sidewalks on Traver near the school?	One of the items on the November ballot that will change how sidewalks will be funded. This study is taking a technical approach and am seeking public comments on your concerns. Later stages of the study will look at issues of prioritization of user needs.
4	What does PDO mean?	Property Damage Only
5	Where does the crash data come from? I was rear-ended at Plymouth/Broadway/Maiden Ln but we didn't call the police. It was reported to insurance though. I'm wondering if those kinds of crashes are captured in this data?	All Michigan law enforcement agencies are required to submit crash data to the Michigan State Police (MSP), who keeps the state-wide data base. This includes submittals by cities, villages, townships, sheriffs, universities and tribal police. The standard form used is called UD-10. There is a qualitiy control process involved to correct mistakes. If a collision or other incident is not reported to the police, then we have no way of knowing that it has happened. If a report is only made to an insurance company, this does not get into the MSP data base as insurance companies are not legally required to report such claims.
6	What was/are the source(s) for the crash data?	
7	Is that from the UD-10 forms?	
8	How do you know that all the UD-10 forms make it into the database?	
9	How do you count the number of bicycles?	For our study, we used video data capture for the traffic data collection. This allows we to be able to classify the types of vehicles at the study location, as well as counting pedestrians and bicyclists, and know if the bikes are using the sidewalks or are on-street.
10	Since many are now working from home, at least since March, does this data reflect a long term study reflecting the large amount of traffic before the COVID-19 shutdown?	All of the traffic data for this Lower Town study was taken in November 2019, well before the onset of the pandemic.
11	If you collected data about bicycles could that be undercounted if done in Winter?	Yes, there is no question but that is possible, indeed likely. The traffic engineering profession needs to develop better methods of collecting both pedestrian and bicycle data. For the purposes of this study, the absolute numbers are not so important as much as knowing about their presence and the general order of magnitude.

12	Do you expect that there are many changes to the patterns because of COVID? If so, what do you think?	What we have seen in southeast Michigan is with the onset of the pandemic lockdowns, traffic volumes are off by anywhere from 40 to 80%. These numbers has subsequently bounced back but are not yet all the way back to pre-outbreak level. However, we have been seeing that the ***patterns*** of travel have not changes that much. Just the overall level of travel is down; the origin - destination percentages are relatively unchanged.
13	Do you intend also to bike these routes? It's a whole different experience than walking.	Bicycling the study area was not part of our scope of work. We did just finish an inventory of bike facilities, to look for where facilities are lacking.
14	Did this study take into account the warm weather visitors to Casades? Things have been crazy this summer	The summertime issues about the Cascades was a topic that came up often in the stakeholder meetings. So the Road Safety Audit looked at that for immediate and long-term improvements to address those issues.
15	With the street sign inventory, will you be looking at School Zone signs on Barton Dr. approaching STEAM? Due to the nature of Barton Dr. (curves and being an arterial road) commuters may not know that they are driving in a school zone.	We looked at the school zone signs along Barton. There are some sign placement issues and we have provided recommendations on changes to make the existing signs more obvious. There are also refreshments needed for the pavement markings associated with this school zone.
16	Any comment on speeding on Barton?	This is another issue that came up in the stakeholder meetings. But it appeared to be an intermittent, time of day issue. Barton Dr at the city limit (M-14 interchange) is a transition zone, so have chronic problems with some drivers carrying too much speed as they enter the city.
17	Traffic seldom stops for pedestrians crossing Maiden Lane at Maiden Lane Ct. Many peds cross here to bus stop or to go to campus. How can we make the cars stop for peds? Even the buses don't stop.	That is a location of concern, including past pedestrian collisions with injuries. Will be looking at this site to try to develop countermeasures to address these issues.
18	Has anything been done to prevent people from using the right lane to turn left onto the Cascades Swift Street. We have had almost close crashes as a result of that. Sorry meant to say Moore Street not Swift Street	The team was confused about what the issue is that Kunal B. is raising. Perhaps further communication will improve our understanding so we will be able to respond later.
19	When will you be factoring in the traffic which will soon be commuting to/coming from/ the 1000+ vehicle U-Mich Wall Street Parking Structure? This affects Nielsen Ct./Maiden Lane and Maiden Lane/Plymouth. And also the new Morningside development—many additional vehicle from that area??	As we work our way through the travel demand modeling efforts, this will factor in these developments as well as looking out into the future for origin-destination patterns.
20	Also any comment on truck traffic on Barton Dr.?	During our field review for the Road Safety Audit, did not see much in the way of truck traffic. If desired, we can look closely at the turning movement data for the Barton Dr intersections as see what the exact numbers are, but expect it to be a low percentage of the total. The city could evaluate some sort of a truck restriction, but will not be able to get rid of all. If nothing else, the garbage haulers will need to be able to access the homes along that route.

21	Did you identify any enforcement opportunities? Speeding on Pontiac Trail, and ignoring the stopsign at Barton Dr and M-14 are two that I see continuously.	During the Road Safety Audit we did identify areas for enforcement, and the northern segments of Pontiac Trail were some of those. For our time at the Barton intersections with the M-14 ramps, we did not note any problems with drivers ignoring the stop signs.
22	I appreciate your road safety audit and I am very thankful that improvements are being made now. The city has improved the repair process for streetlights (DTE and city owned), but we have crosswalks with no or low lighting. One example is the west corner of Fuller St. and E. Medical Center Dr. When will you be improving lighting?	This was one of the problem intersections identified with the Road Safety Audit. Since the traffic signal poles are too short to add street lighting davits to, city will have to look at alternatives to add the needed street lighting of better illuminate the pedestrian crossings.
23	Truck traffic has been prevalent on Barton and cannot be discounted.	There is road construction ongoing at the moment along portions of Barton Dr, so the trucking related to that activity is unavoidable.
24	That's not my experience as a person who lives on that street. I'm talking about large trucks for construction.	
25	No, trucks for construction on Pontiiac Trail.	There is also some homebuilding along and just off of Pontiac Trail north of Barton. So again part of that is unavoidable. However, whether on Barton or Pontiac Trail, it merits our further review to see what trucking is present and whether there is a legitimate origin or destination in the study area.
26	I am not making reference to the trucks on Barton during construction, rather to the time prior to construction began.	
27	How can accurate conditions be measured when streets are closed due to construction?	All the traffic counts and volume data we collected was gathered in November 2019. That data is the source for our analysis of existing conditions.
28	will there ever be consideration to eliminate the on-ramp from Barton Dr to M14	Our understanding is that Mich. Dept. of Transportation (MDOT) has been able to purchase some property in the northeast quadrant of the existing interchange. So they are now in a position where they can reconfigure that portion of the interchange to improve its safety and operations. However, a reconfiguration is not yet reflected in the state's 5-year improvement plan. As a short term measure, have asked MDOT to consider installing message boards along M-14 to aid in driver awareness for slow exiting and entering traffic.
29	The geometry is being changed by mdot for M14 Barton Ramp. MDOT has already acquired the necessary property to do so.	
30	I am surprised to see Traver passing "Basic Conditions exist for bicyclists. Near the Barton intersection, it is straight up dangerous to ride a bike—the potholes could swallow a VW beetle! Also, the fact that there are streets with NO sidewalks within FEET of the school property and it was not metioned is remarkable. Care to comment?	The poor pavment condition, lack of sidewalk (especially adjacent to the school) and no marked bike lanes were all issues noted in the Road Safety Audit. But the overall width to that segment of Traver combined with its relatively low traffic volumes is why it received a 'Basic Conditions' assessment. We will double check this assessment.

31	Back to cycling and the need to actually bike the facilities that are planned. The city just installed a 2 way bike lane on Williams. Solves all kinds of problems in getting cyclists from campus to downtown. But it creates many problems. Suppose you are cycling west on Williams. How do you make a left turn onto Division? You would have to cross an oncoming cyclist lane, then jump into car traffic that is not expecting you as you get into the left side of the car lane. If you attempted that manuver on a bike, you'd immediately see the problem. I prefer to stay out of the bike lanes there because I'm trapped and can't safely exit to change my direction.	A detailed description of some of the pro/con for cycle tracks. Good for through movements, creates challenges for turning bikes. The team will carry this consideration when evaluating possible improvements in this Lower Town study.
32	There is street parking on both sides of Traver and no bike lanes, so I agree, it should not pass Basic Conditions.	As already indicated, we will double check this assessment.
33	Can it be determined if there are practical limits for the number of cars that can be allowed into new developments in this area before the streets basically become unusable?	Keep in mind that we are still working our way through the existing condition modeling. Then we will be forecasting traffic for future conditions based on planned developments. The modeling we will then undertake will be a form of a stress test for the roadway network. When completed will be brought to the City Council. They will have to consider fundamental policy issues of development (tax base, private property rights, etc.) and the social issues of what the built environment is or becomes. Hopefully our report will illuminate these concerns and then it rests with the City Planning Commission and City Council to decide.
34	I hope it is still possible for stakeholders/resident homeowners on Wall Street/Maiden Lane/ Island Drive to be interviewed/contribute to your Lower Town Mobility concerns/efforts toward problem-solving?? Has anyone from our neighborhood been interviewed yet? People from our neighborhood would look forward to meeting with you.	The previous meeting with stakeholders were more focused on agencies and organizations, rather than individuals. But we are looking at opportunities for groups of residents to get together, so we will be in contact with you when we get to this stage in our process.
35	Will the eventual bike plan take into account the origin travel study and any volume studies to try and have the biggest impact on the safety of people cycling? Not just areas with the least existing infrastructure? Thanks!	Yes. The study is not just to identify missing pieces of the infrastucture. Rather, we are hoping to prioritize improvements for having the biggest impacts for the most users. The public will be part of this process, helping identify both improvements and likely priorities.
36	Are you taking the local crosswalk ordinance into consideration when evaluating our infrastructure?	Yes, we are aware of that requirement. It is also part of the model we are using for evaluating pedestrian facilities.
37	Pedestrians walk out into the path of moving vehicles. Very dangerous in low light.	When we are doing our inventory of pedestrian facilities, lighting levels are part of the considerations. While the city has done relatively well in lighting up the community, there are some areas (Fuller at Maiden Ln) where there are some shortcomings. This will be an ongoing issue for us to look at as we work our way through the balance of the study.

38	Thank you OHM and Luke Liu for this presentation tonight. Is the current total price for this mobility study the $594,000 that I recall from last summer? Thanks.	That is the approximate budget value for the four firms that make up our team. We are approximately half way through the study budget.
39	Michigan determines road speeds by studying what speeds people go and then adjusting them “whatever the road will bear”. Will your approach be to follow what already is and look for safer/more efficient infrastructure, or to put intelligent design into place and engineer changes in existing patterns to enhance the experience of all who are using the road?	The use of prevailing speeds to set speed limits is suitable for rural roads and areas that are not built up. We recognize that the city has set policy regarding speeds and any changes or modifications that may come out of our study will conform to this policy.
40	Are you coordinating with Sam Schwartz? Council approved an evaluation of our pedestrian and cycling environment? It should start in a few weeks.	Yes. City staff is aware of him starting and they are coordinating between the two efforts.
41	Follow up to my question. I was alluding to the more general philosophy of design, not just speed limits.	We will be looking at various techniques that would be considered major road traffic calming, especially for Pontiac Trail and Plymouth Road, to estrablish an environment for motorists to drive at an appropriate speed.

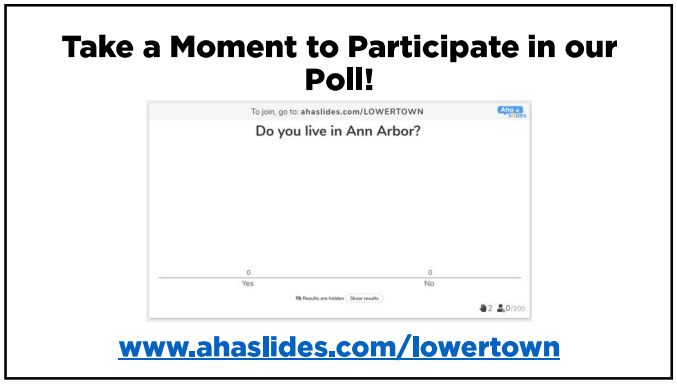
Summary of Lower Town Mobility Study Presentation - Public Meeting of 11/19/2020

City recognizes there are challenges in the Lower Town area, and there are development projects underway which will bring challenges to traffic safety, congestion and mobility. City Council wants to mitigate these concerns and directed staff to identify the scope to conduct an area-wide analysis of the mobility needs of this area.

This is the second of four public meetings for this study.

Self-introductions were made by the principal members of the study team:

+ Luke Liu, City of Ann Arbor, City Project Manager
+ Heather Seyfarth, City of Ann Arbor, City Planner
+ Stephen Dearing, Quality Control Reviewer
+ Lauren Hood, Facilitator and Public Engagement
+ Steven Loveland, Team Project Manager



Why Do a Mobility Study?

- Need a holistic view of transportation conditions in the Lower Town area
- Consider all travelers in the area
- Overall goal is to make traveling around the Lower Town Area easier, safer, and more efficient

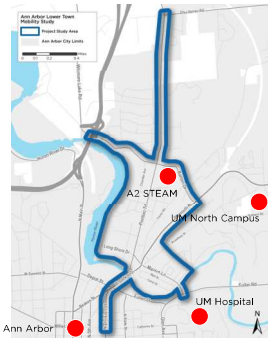
The study is to look at all modes of travel in and around the Lower Town Study area.

What We're Studying

Purpose is to identify opportunities to make traveling easier within Lower Town.

Looking Specifically at:

- Traffic Congestion
- Bicycle Travel and Connections
- Pedestrian Movements
- Public Transit
- Roadway Safety
- Intersection Designs



The study area is depicted as the dark blue outline on this map. The northern limit is Pontiac Trail at Dhu Varen. To the west is Barton Dr at the M-14 interchange and we follow Barton east to Plymouth Rd. Looking to the south, we include Division St starting at Catherine St. Following it north, it includes the area north of the Huron River, as well as the intersection of Maiden Lane at Fuller Rd by the U of M Hospital.

Study Process

- Two Year Timeline
- Nearing the halfway point

The project process is shown on this slide. We kicked off the study with an internal team meeting, progressed to the stakeholder meetings, and held our first meeting with the general public to better understand the existing conditions and concerns of the study area.

We have finished the Conditions Analysis phase, which includes a Road Safety Audit of all the streets in the study area, a pedestrian and bicycle facilities assessment, existing conditions travel modeling, and origin - destination information. Part of this meeting is to report out our findings to date.

Outcomes of the Study

- Identify ways to improve mobility for all users
  - Drivers, cyclists, pedestrians, transit riders, etc.
- Explore opportunities to change travel habits
  - Changing travel habits and patterns can help limit congestion issues
- Innovative solutions that improve efficiency of the system

Today's Public Meeting

- Review Existing Conditions Findings
- Discuss Vision and Goals for Lower Town Area
- Brainstorming for Alternatives

The other key focus of today's meeting is to begin the discussion on a vision and goals for the Lower Town area.

We would be happy to hear any ideas you may have for changes to be made to improve safety and mobility (for all modes) in the study area.

Public Engagement

Virtual Office Hours

Public Meetings

Stakeholder Interviews

In December 2019 we interviewed a group of people representing these agencies and organizations. They were chosen in conjunction with city staff from a data base the City has.

We also held the first public meeting for the project earlier this year in July. Actual attendance was a bit modest, so we held a series of four one-hour long 'virtual office hours' to provide additional opportunities for public comments.

What We've Heard

Stakeholder Concerns

- Gaps in non-motorized facilities
- Few walkable businesses
- Growing population in area
- Peak hour congestion from commuters
- Inadequate public transit frequency
- Traffic safety discourages walking/biking
- New development parking is inadequate
- Limited crossing opportunities of Huron River

This shows some of the concerns we heard from the stakeholders. There is a document cataloging in detail the information learned. A copy has been placed on the City's web page for this project.

What We've Heard

Concerns from Virtual Office Hours

- Specific areas in Study Area in need of safety improvements
- Residents don't feel comfortable walking and biking
- Transit is not frequent enough to use
- Heavy traffic from M-14 coming through area
- Bike infrastructure is disconnected
- Safety concerns around A2 STEAM school
- New development is adding to traffic
- Safety conflicts between bikes and pedestrians

While there was some overlay, we learned yet more concerns and issues from the first public meeting and the related office hours. This is also cataloged in detail, and a copy has been placed on the City's web page for this project.

What We've Heard

Opportunities

- More frequency and more visibility to transit
- Improve walking connection to Hospital
- Easier access to Border-to-Border trail
- Add more mixed-use retail to new developments
- Improve snow clearance in winter for bikes and peds
- Add safe crossing infrastructure
- Create a cultural shift to more walking and biking
- Educate public on safely using streets

Beyond the concerns expressed, the stakeholders and general public expressed some of the types of positive changes they want to see for this area.

Traffic Conditions in Lower Town

The key sources of our assessment of traffic conditions in Lower Town come from:

+ Traffic Data Collection (including origin / destination analysis)
+ Crash Analysis
+ Road Safety Analysis (especially field observations)
+ Inventory and evaluation of pedestrian and bicycle facilities
+ Simulation modeling for select intersections

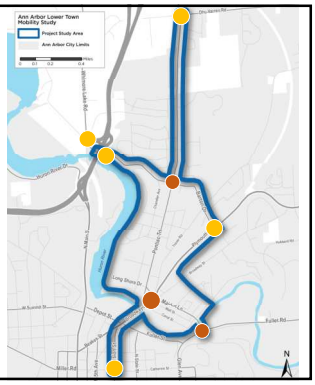
High Congestion Intersections

Based on Model

- Plymouth Rd at Barton Dr
- US-23 off-ramp to Barton Dr
- Barton Dr to US-23 on-ramp
- Dhu Varren Rd at Pontiac Trail
- Division St at Catherine St

Based on Observation

- Barton Dr at Pontiac Trail
- Maiden Ln/Broadway St/Moore St
- Maiden Ln at Fuller Rd



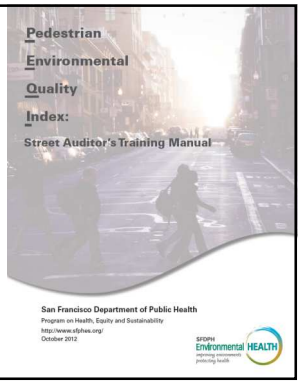
Travel Patterns

- 55% of trips along Lower Town area roads are passing through the area
- 21% are coming to Lower Town from other areas in and around Ann Arbor
- 20% are traveling from Lower Town to districts outside
- Only 4% of trips are completely within Lower Town

Ped/Bike Analysis Approach

Team used two tools:
- Pedestrian Environmental Quality Index (PEQI)
- Bicycle Environmental Quality Index (BEQI)

Benefits of these tools:
- Based on feedback from national experts
- Comprehensive
- Customizable
- Observational field survey



The tools used for pedestrian analysis (PEQI) and bicycle analysis (BEQI) were developed for San Fransisco, CA. It relates the nature and conditions related to their facilities and provides a score that corresponds to the suitability for pedestrian or bicycle use, comfort and safety.

Input Categories

Intersection Safety	• Crosswalks • Traffic Control
Traffic	• Number of Lanes • Speed Limit
Street Design	• Width of Facility • Connectivity
Land Use	• Retail Use • Public Art
Perceived Safety	• Street Lighting • Signs

PEQI & BEQI Scores

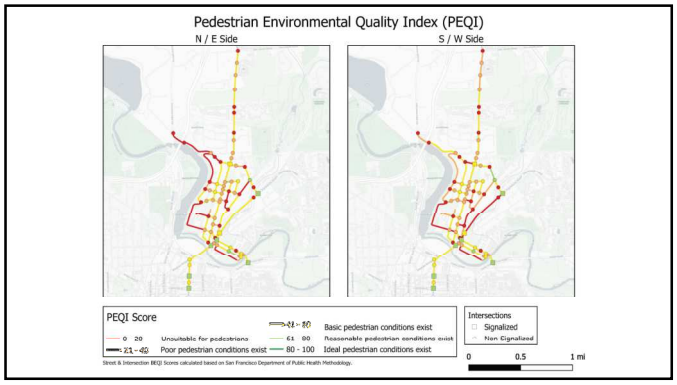
0 - 20	Unsuitable for pedestrians/bicyclists
21 - 40	Poor pedestrian/bicyclist conditions exist
41 - 60	Basic pedestrian/bicyclist conditions exist
61 - 80	Reasonable pedestrian/bicyclist conditions exist
81 - 100	Ideal pedestrian/bicyclist conditions exist


Pontiac Trail & Dhu Varren Rd

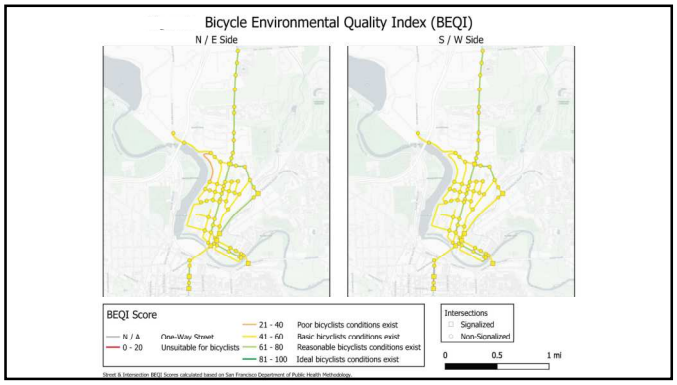

Barton Dr & Plymouth Rd


Plymouth Rd Broadway St

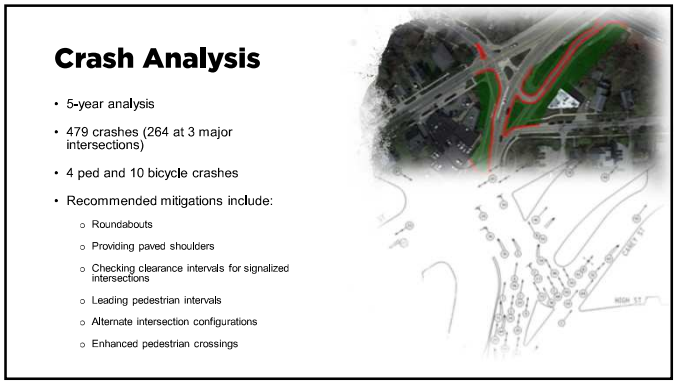

Pontiac Trail & Amherst Ave



As can be seen in this and the next slide, there are specific locations within Lower Town that score poorly, and represent sites that the City will need to be targeting for improvements.



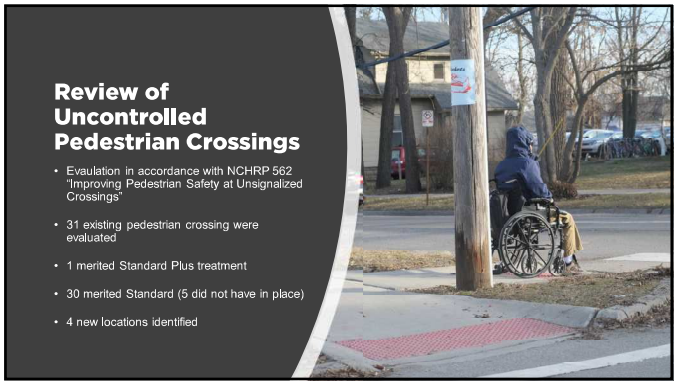
Safety



We collected 5 years of crash data for the study area, encompassing 2014 through 2018. This data was summarized in our report. Fortunately, there were no fatalities in the area. The number of serious injuries was 7, of which 2 involved a pedestrian.

We used graphical displays of the crash data to help identify concentrations of crashes. We found that most of the crashes were occurring at intersections, which is typical.

One of the key findings involved the number and complexity of crashes at Broadway / Division / Beakes. This led to looking at mitigations for the crashes. We will be further evaluating this location as well as others for possible solutions.



After the pedestrian facility audit was completed and the PEQI scores compiled, we then did a more in depth look at 31 specific pedestrian crossings. The methodology use was based on NCHPR 562 "Improving Pedestrian Safety at Unsignalized Crossings".

Based on this, we found that 5 locations that did not have all of the desired signs or markings in place. Further, we identified 4 new locations were pedestrian crossings should be provided.

The results of the Road Safety Audit (RSA) for the study area were covered in the first public meeting in July. The RSA was performed over a 2-week period in February. Used a multi-disciplinary team to consider the safety of all uses: pedestrians, bicyclists, transit uses and drivers. It identifies risks to these groups and suggests mitigating measures.

While the Lower Town Mobility Study has a long term focus, the RSA was intended to look for near term fixes the City could implement quickly and cheaply. These findings were provided to the City in a comprehensive report.

Comprehensive Transportation Plan

- Ann Arbor: Moving Together – creating a safer, more sustainable, accessible, and equitable transportation system for everyone.
- Mobility Values
  - Safety
  - Mobility
  - Accessibility for All
  - Healthy People and Sustainable Places
  - Regional Connectivity
- Critical Goals
  - Vision Zero
  - Carbon Neutrality

With all this as background, we want to shift focus to what should be the vision and goals for Lower Town. We start with the key values identified in the City's just completed Comprehensive Transportation Plan

Workshop Structure

- Split into Breakout Groups
- 1st Breakout – 2 parts (15 Minutes)
  - Lower Town Area Issues
  - Project Goals
- 2nd Breakout (20 Minutes)
  - Alternatives
- Report out to larger group between and after breakouts

Because of the small number of attendees, we did not break into smaller groups.

Issues and Goals

15 Minutes

Issues Q1:
What do you see as the biggest transportation issues in the Lower Town Area?

Issues Q2:
What is your experience moving through the Lower Town Area, as a driver, pedestrian, bicyclist or transit rider? How could you experience be improved?

Goals Q1:
What goals do you have in improving the mobility conditions in Lower Town

These questions and their answers, as well as the ones received after completion of the presentation, are summarized starting at the end of this presentation.

Report Out

Let's Discuss Your Group's Findings

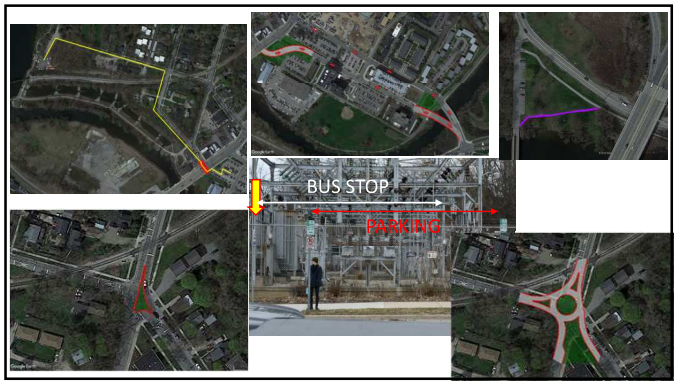
Alternatives

The next 4 slides illustrate suggestions from stakeholders, the project team, City staff and earlier public comments we received.

They are offered help get the discussion started on potential changes in the Lower Town area.

Potential Alternatives

- Road Safety Audit Improvement Alternatives:
  - Intersection changes
  - Lighting upgrades
  - Non-motorized infrastructure
  - Transit Improvements
  - Speed Management
  - ADA Access

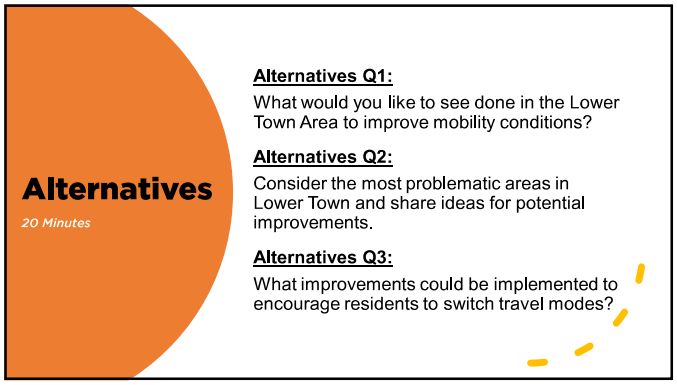


Transportation Demand Management

- Strategies to redistribute when and how people travel through Lower Town
  - Improved non-motorized conditions
  - Improve public transit
  - Ridesharing programs
  - Incentives to give up parking
  - Flexible work times
  - Transit supportive development

Improvement Ideas from the Community

- From Virtual Office Hours:
  - RRFBs along Pontiac Trail
  - Speed management along Pontiac Trail
  - Seamless Border-to-Border trail connection from Broadway
  - Green bike lane paint
  - Driver and pedestrian safety education
  - Park and Ride Locations



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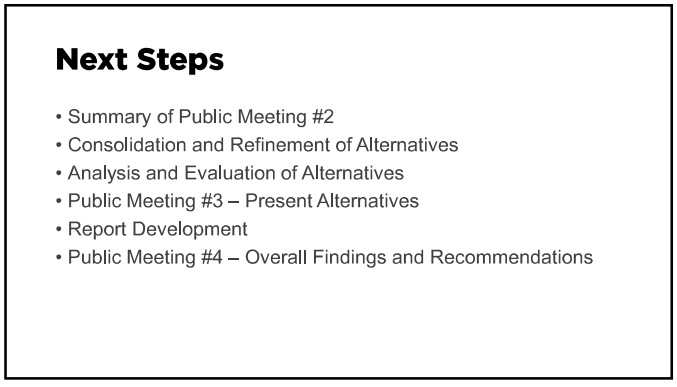


Lower Town Mobility Study

Public Meeting #2

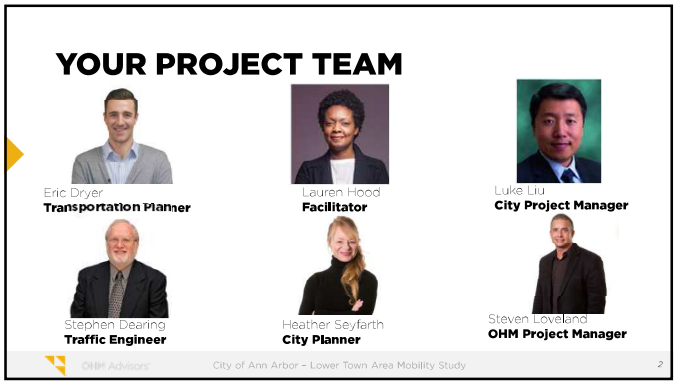
Meeting Notes

- 2 Attendees total
- Project team gave the meeting presentation, summarizing the technical work completed to-date. This included input gathered from stakeholders and the public, the project process, traffic conditions, safety conditions, bicycle and pedestrian infrastructure conditions, and potential recommendations for the Study Area.
- Open discussion was had with the attendees around the issues, opportunities, and goals for mobility in the Lower Town Area.
- *Issues*
    - Changes to the neighborhood are causing issues
    - New developments are adding more cars and traffic
    - Complete streets projects – two-way bike lanes, separated bike lanes – are scary as a driver
    - Pontiac Trail and Barton Drive are unsafe
    - Traver Road is bad for walkers and bikers
    - People don't drive safely around the school
    - Disappointed in Barton Drive bike lane project – no traffic calming added so people still drive fast
- *Opportunities*
    - Like how Ann Arbor is adding new bike infrastructure around town
    - Makes year round cycling easier
    - Would like to see an integrated, comprehensive plan for transportation in Ann Arbor
    - Add bike lanes with protection since traditional bike lanes can be just as dangerous as none at all
- *Experience Traveling Through Lower Town*
    - As a bicyclist – hard to go grocery shopping since options are farther away
    - Bumpy roads make biking tough and uncomfortable
    - Road conditions are tough for cyclists
    - Transit Users – frequency and travel time are biggest issues
        - Use Pontiac Trail route: on-time performance makes waiting tough, getting into Downtown is slow due to traffic
- *Goals*
    - Would like to see an overall, city-wide plan that this study fits into
    - Integrate multimodal travel into all new transportation projects
- *Alternatives*
    - No specific alternatives, just want to be able to travel safer and more comfortable
    - Improve safety for pedestrians – slow traffic down
    - Would like to see an area wide plan for snow clearance
        - Snow clearance may be a TDM strategy for the winter
- *Other Thoughts*

- Why are bus stops at crosswalks? Hard to tell if people are waiting for the bus or waiting to cross.
    - Bus stops are typically placed at the crosswalks to allow for easier crossing for riders
- Many times, the crosswalks are not cleared of snow
- Understand that roads can't be widened in the Study Area, so other improvement recommendations are needed

Summary of Lower Town Mobility Study Presentation - Public Meeting of 6/10/2021

The purpose of this meeting to report out the solutions and alternatives identified to date. Many of the changes being suggested were the result of various project efforts, like outreach to stakeholders and the public, the crash study, the Road Safety Audit, and brainstorming sessions held with the study team and city staff. The goal of the meeting was to gather further public input on possible actions to be taken.



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+ Eric Dryer, Transportation Planner
+ Lauren Hood, Facilitator and Public Engagement

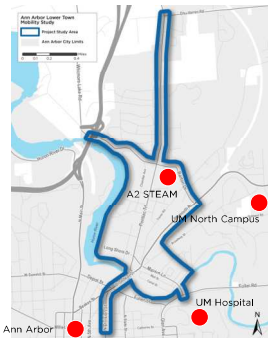
The study is to look at all modes of travel in and around the Lower Town Study area.

What We're Studying

Purpose is to identify opportunities to make traveling easier within Lower Town.

Looking Specifically at:

- Traffic Congestion
- Bicycle Travel and Connections
- Pedestrian Movements
- Public Transit
- Roadway Safety
- Intersection Designs



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Study Process

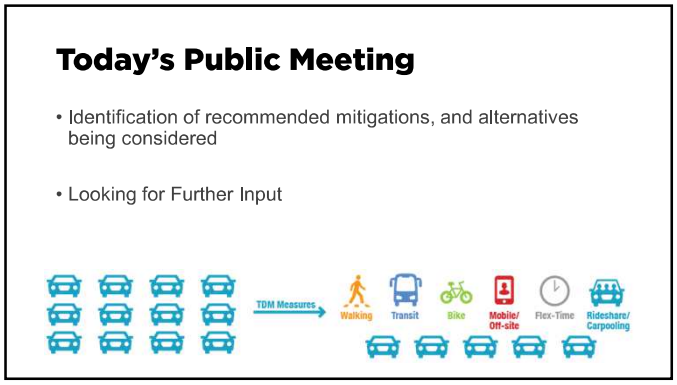
- Two Year Timeline
- Approximately 75% complete

The project process is shown on this slide. We kicked off the study with an internal team meeting, progressed to the stakeholder meetings, and held several meetings with the general public to better understand the existing conditions and concerns of the study area.

After finishing the Conditions Analysis phase, we met with the public to explore the vision they have for Lower Town and goals related to achieving that vision.

Outcomes of the Study

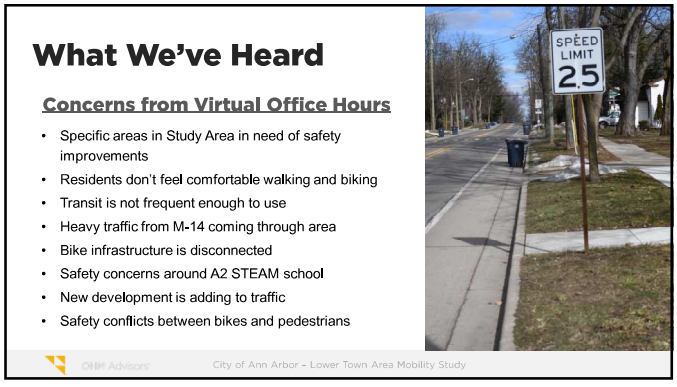
- Identify ways to improve mobility for all users
  - Drivers, cyclists, pedestrians, transit riders, etc.
- Explore opportunities to change travel habits
  - Changing travel habits and patterns can help limit congestion issues
- Innovative solutions that improve efficiency of the system



The key focus of today's meeting is to present a series of improvements and alternatives we have developed that furthers the vision and goals for Lower Town.

We want to hear you reactions to these ideas. We would also be happy to hear any ideas you may have for other changes to be made to improve safety and mobility (for all modes) in the study area.

This shows some of the concerns we heard from the stakeholders. There is a document cataloging in detail the information learned. A copy has been placed on the City's web page for this project.



While there was some overlay, we learned yet more concerns and issues from the first public meeting and the related office hours. This is also cataloged in detail, and a copy has been placed on the City's web page for this project.

What We've Heard

Opportunities

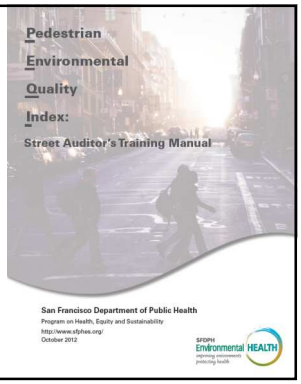
- More frequency and more visibility to transit
- Improve walking connection to Hospital
- Easier access to Border-to-Border trail
- Add more mixed-use retail to new developments
- Improve snow clearance in winter for bikes and peds
- Add safe crossing infrastructure
- Create a cultural shift to more walking and biking
- Educate public on safely using streets

Beyond the concerns expressed, the stakeholders and general public expressed some of the types of positive changes they want to see for this area.

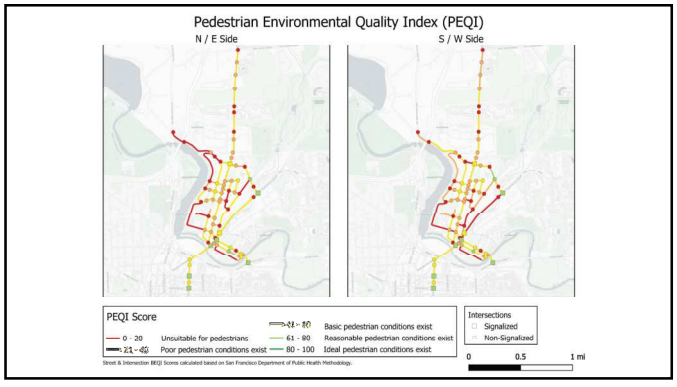
Pedestrian Analysis Approach

Team used multiple tools:
- Pedestrian Environmental Quality Index (PEQI)
- RSA
- NCHRP 562
- Public and Stakeholder Engagement

Benefits of these tools:
- Based on feedback from national experts
- Comprehensive
- Customizable
- Observational field survey



The tools used for pedestrian analysis (PEQI) and bicycle analysis (BEQI) were developed for San Fransisco, CA. It relates the nature and conditions related to their facilities and provides a score that corresponds to the suitability for pedestrian or bicycle use, comfort and safety.



As can be seen in this slide, there are specific locations within Lower Town that score poorly, and represent sites that the City will need to be targeting for improvements.

Pedestrian Findings

- Need for pedestrian crossing improvements
  - Rectangular Rapid Flashing Beacons (RRFBs)
  - High emphasis crossings
  - Ramp upgrades
  - Countdown signal heads
  - Install pedestrian warning signs






The PEQI was evaluated in conjunction with the extensive field reviews done during the Road Safety Audit. We identified the issues, shortcomings, and deficiencies that need to be addressed.

Pedestrian Findings

- Need for pedestrian crossing improvements
  - Rectangular Rapid Flashing Beacons (RRFBs)
  - High emphasis crossings
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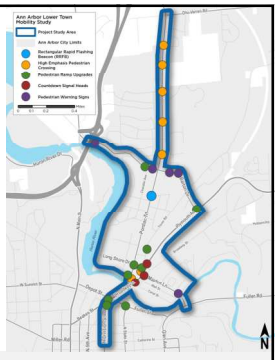

There were specific locations identified that had discrete needs for improvements.

Pedestrian Findings

- Improve the Pedestrian Experience
  - Street trees and increased greenbelt
  - Fill in system gaps (sidewalk, fence, etc.)
  - Lighting
  - School improvements
  - Traffic reductions
  - Speed management




There were also general considerations that would apply to sections of the community.

Pedestrian Findings

- Improve the Pedestrian Experience
  - Street trees and increased greenbelt
  - Fill in system gaps (sidewalk, fence, etc.)
  - Lighting
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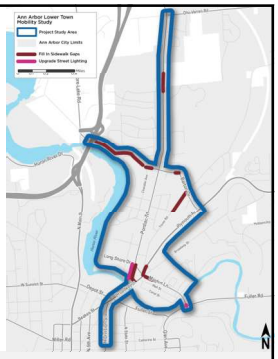
  - Speed management



But we still tried to identify specific locations where these general considerations could be applied.

Most importantly, we identified the gaps in sidewalk that would provide a significant impact for pedestrians.

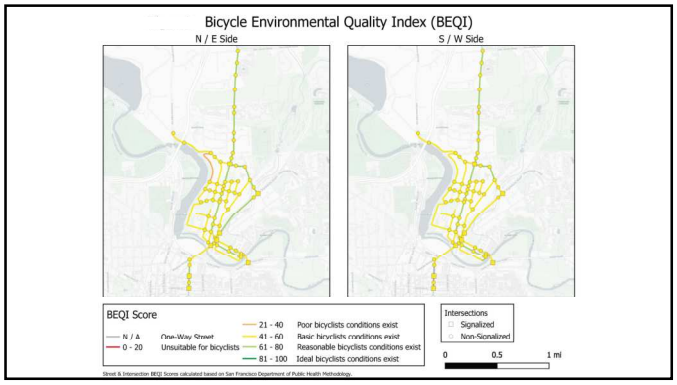
Questions and Answers Break

Bicycle Analysis Approach

Team used multiple tools:
- Bicycle Environmental Quality Index (BEQI)
- Road Safety Audit
- Public and Stakeholder Engagement

Benefits of these tools:
- Based on feedback from national experts
- Comprehensive
- Customizable
- Observational field survey

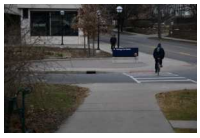
As can be seen in this and the next several slides, there are specific locations within Lower Town that score poorly for bicyclists, and represent sites that the City will need to be targeting for improvements.



Bicycle Findings

- Cyclist Amenities
  - Wayfinding signage
  - Beginning and end of routes
  - On street bike lanes




Bicycle Findings

- Safety Features
  - Bike lanes blocked
  - Obstructions
  - Boardwalk
  - Bike boulevard
  - Lanes adjacent to parking

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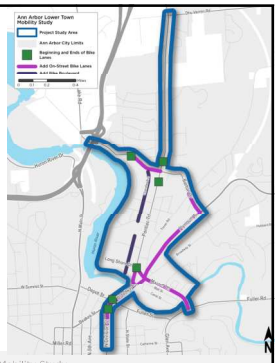

City of Ann Arbor – Lower Town Area Mobility Study

The key improvements identified involve segments to add on-street bike lanes and specific locations where the beginning and ending of bike lanes need better treatment.

Questions and Answers Break

Transit

Team used multiple tools:
- Road Safety Audit
- Public and Stakeholder Engagement
- Brainstorming Session

Benefits of these tools:
- Observational field survey

As with pedestrians and bicyclists, there were general and specific improvements identified for transit. These were a reflection of issues raised by the public, stakeholders and the field work by project staff.

Transit Findings

- Rider Amenities
  - Increase frequency and reliability
  - Upgrade bus stops for ADA compliance
  - Additional park and ride opportunities
  - Eliminate bus stop conflicts
  - Transit Signal Priority




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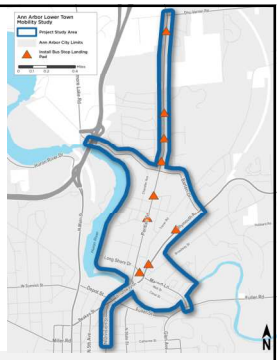


Questions and Answers Break

Motor Vehicles

Team used multiple tools:
- Public and Stakeholder Engagement
- Road Safety Audit
- Traffic Modeling
- Brainstorming Session
- Crash analysis

Benefits of these tools:
- Data driven analysis
- Observational field survey

When it came to vehicle traffic, there were specific locations identified that had discrete needs for improvements. These needs came from several sources and study efforts.

MV Findings

- Infrastructure Improvements
  - Pavement Markings
  - Sign Upgrades
  - Pavement Condition
  - Guardrail
  - Signal Modernization
  - EV Charging Stations
  - Intersection Specific

The improvements took the form of a whole variety of types, which will be discussed in great detail in our report.

MV Findings

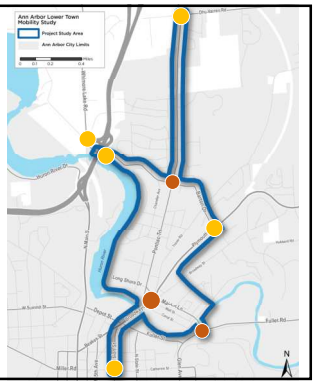
- Driver Technologies
  - Changeable Message Signs
  - Speed Management & Warning Systems
  - Trans System/Demand Management (TSM/TDM)

Questions and Answers Break

High Congestion Intersections

Based on Model
- Plymouth Rd at Barton Dr
- M-14 at Barton Dr
- Dhu Varren Rd at Pontiac Trail
- Division St at Catherine St

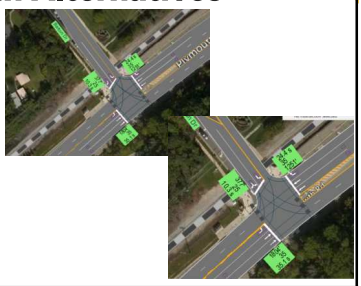
Based on Observation
- Barton Dr at Pontiac Trail
- Maiden Ln/Broadway St/Moore St
- Maiden Ln at Fuller Rd



For now, want to discuss the handful of locations where there are congestion and safety issues. We have identified one or more alternatives to address these issues.

Barton at Plymouth Alternatives

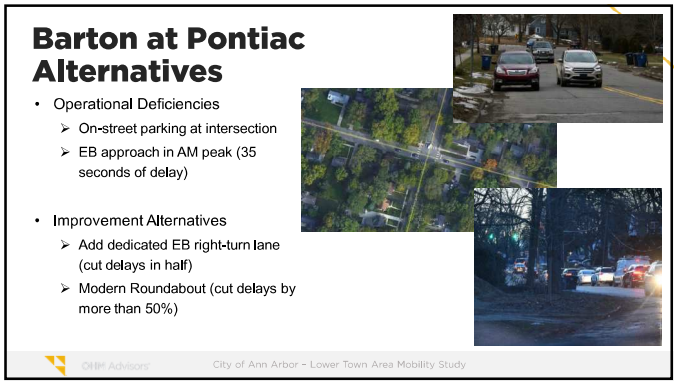
- Operational Deficiencies
  - SEB Barton left-turn movement failing in AM peak hour
  - 70+ seconds of delay
- Improvement Alternatives
  - Add a 2nd left-turn as a shared left/right turn lane
  - Reduces delay by 20+ seconds



City of Ann Arbor – Lower Town Area Mobility Study

At Barton and Plymouth, the very high left turn demand from EB Barton to NE bound Plymouth is an issue. This causes very long delays, especially in the a.m. commuter peak.

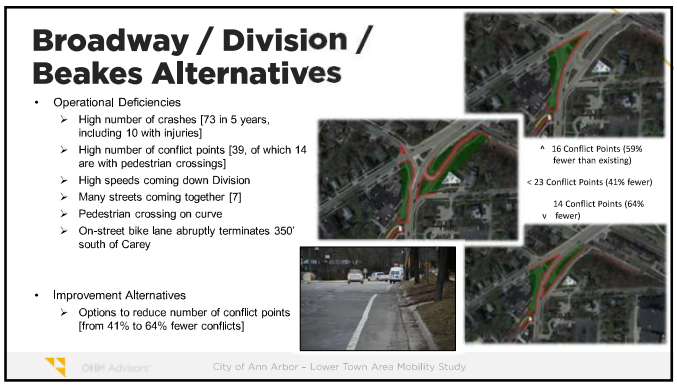
Without widening the pavement, our thought is to take what is now an exclusive right turn lane on Barton and allow an optional left turn from that lane. Allowing for dual left turns will greatly reduce delay.



Barton at Pontiac Trail is more problematic. There is a fair amount of delay here, especially in the morning for EB commuters. However, there are competing demands for improving conditions for bicyclists, and residents wanting to preserve on-street parking on Barton west of the intersection.

If emphasis were to be place on motorists, then eliminating the parking in favor of an EB right turn lane makes sense.

An option that would better balance between drivers and non-motorists would be a single lane roundabout.



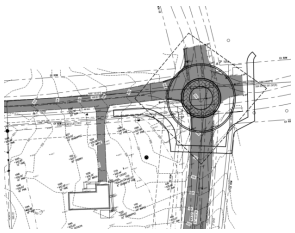
The junction of Beakes, Broadway, and Division (and four other streets) is the most problematic location in the study area. It is the highest crash location and the location of a number of collisions with pedestrians.

Using conflict points (vehicles to vehicles, and vehicles to pedestrians) as a surrogate for safety, we identified several ways this area could be reconfigured to simplify the junction, better protect pedestrians and generally slow traffic.

The configurations what best reduced conflict points (improve safety) would require the inconvenience of drivers the most by cutting off access to various side streets, requiring them to detour / reroute.

Pontiac at Dhu Varren Alternatives

- Operational Deficiencies
  - EB/WB under stop control
  - High speeds on Pontiac Tr
  - WB Dhu Varren delays in AM peak (LOS E, 36+ seconds of delay)
- Improvement Alternatives
  - Analyzed for signal (all approaches 20 seconds or less delay)
  - Analyzed for roundabout (LOS A, less than 8 seconds of delay per approach)
    - Reduces Speeds

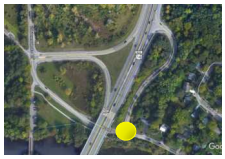


Pontiac Trail at Dhu Varren is one of the more straightforward locations to consider. The intersection is seeing ever increasing delays on Dhu Varren given the existing two-way stop control it operates under.

This location meets warrants for the installation of a traffic signal. It is also an excellent candidate for a single lane roundabout.

Barton at EB M-14 Ramp Alternatives

- Operational Deficiencies
  - All way stop intersection under MDOT jurisdiction
  - Off ramp approach failing in AM (55+ seconds of delay)
  - WB Barton fails in PM (59+ seconds of delay)
- Improvement Alternatives
  - Performed signal warrant analysis
  - Signal option could reduce delays (needs to be reviewed as part of an MDOT interchange treatment)



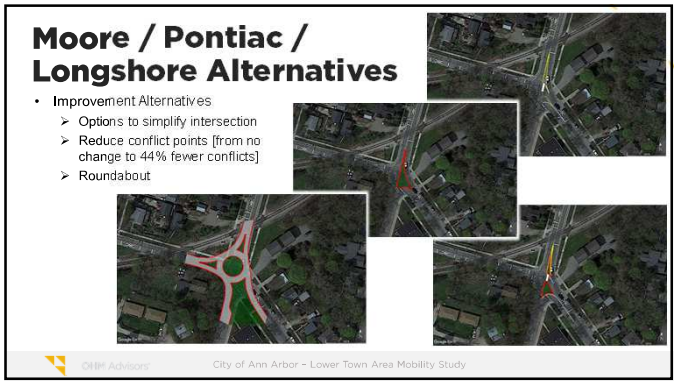
Barton Dr at the EB M-14 exit ramp is also somewhat straightforward. Currently an all-way stop, the volumes throughout the day are now such that this control is not functioning well.

We found that this location meets warrants for the installation of a traffic signal.

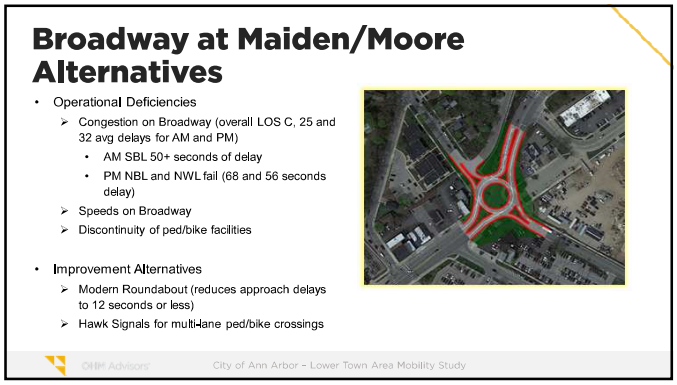
Moore / Pontiac / Longshore Alternatives

- Operational Deficiencies
  - One-way pair south of intersection
  - Pedestrian crossing issues – north leg
  - Confusing geometry
  - Speeds
  - Train track near intersection
  - Bike lanes north of intersection

While not as complex as the junction of Beakes, Broadway, and Division, this intersection does have some significant issues. One of particular concern is that traffic making a right turn from Moore to NB Pontiac Trail are not required to stop and so are putting pedestrians at risk who are crossing Pontiac Trail.

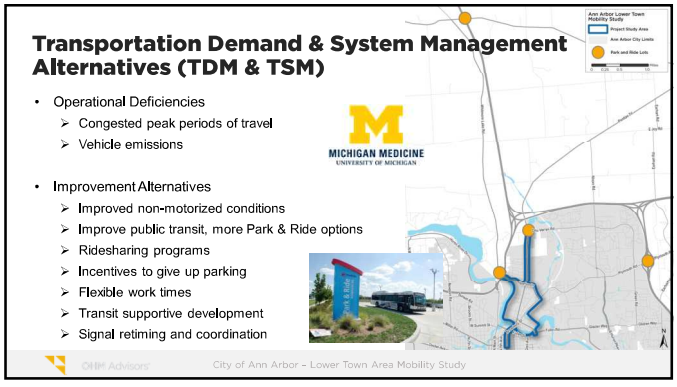


Again using conflict points as a surrogate for safety, we identified several ways this area could be reconfigured to simplify the junction, better protect pedestrians and generally slow traffic.



The last specific location we considered was Broadway at Maiden Ln and Moore St. There are significant delays at this signalized intersection, especially in the morning and evening commute times. Retiming the signal does not hold any promise of improving this situation.

We identified that a 2-lane roundabout would significantly reduce delays while also helping to reduce the severity of any crashes that may still occur.



Beyond the specific locations already discussed, there are general alternatives that would help with the operational problems and safety issues we found. Here are some of these types of measures.

Speed Management Alternatives

- Operational Deficiencies
  - Corridors with noted high speeds (Broadway, Pontiac Tr, Division, Plymouth)
  - Pedestrian and Bike Safety
- Improvement Alternatives
  - Roundabouts
  - Median islands
  - Neckdowns
  - On street parking
  - Speed actuated signing
  - Gateway treatments
  - Bike Lanes

The topic of speed management has been a recurring theme in our discussions with stakeholders and the public. We have identified a series of measures, the toolbox, for use in addressing speeding concerns.

Questions and Answers Break

There were several questions raised during the course of the presentation. The questions and their answers, as well as the ones received after completion of the presentation, are summarized starting at the end of this presentation.

Next Steps

- Summary of Public Meeting #3
- Further Consolidation and Refinement of Alternatives
- Analysis and Evaluation of Alternatives
- Report Development
- "Office Hours" – Public Engagement Opportunities
- Public Meeting #4 – Overall Findings and Recommendations

Lower Town Mobility Study

Public Meeting 3 – Meeting Notes

Community Questions

- Is vehicle speed considered anywhere? the speed limits are often disregarded which I have found to be more of an issue than congestion. often during the hours with the most congestion feel safer to cross the street, etc. because it's the only time traffic goes reasonable speeds.

  There will be a discussion of speeding issues and possible speed management techniques later in the presentation.

- Is there documentation that new development parking is "inadequate"? Or is this just anecdotal observation?

  This was one of the concerns we heard from the series of stakeholder meetings and public 'office hours' events we held. We have not performed any analysis into whether this is a particular problem.

- Are the RRFB's useful by the school when peak traffic/pedestrian hours are during daytime?

  RRFB's are activated by pedestrians pushing a button at the crossing. The RRFB's will be available for use 24/7, not just for school arrival and dismissal periods.

- There's no recommendation to fill in the sidewalk gap on (the north side of) Plymouth Rd. between Barton and Maiden Lane?

  There currently is a bit of sidewalk along the north side from Barton to the bus stop just southwest of Barton. During the design process for reconstructing this segment of Plymouth Rd, consideration was given to extending the sidewalk to the southwest. While a short extension is feasible, as we get further from Barton there are steep grades between Plymouth Rd (lower) and the railroad tracks (higher) that make this impractical. So, adding sidewalk along this segment of Plymouth is not part of the roadway construction plans at this time.

- What are action items likely to be as recommended to the Transportation Commission and City Council?

  This presentation is providing a preview of some of the recommendations. A full, formal report will be prepared to document the study process, findings and recommendations. This will then be presented to the Transportation Commission. The report will be published to the City's project website and subject to another public meeting. City Council action may likely take the form of considering individual projects for funding and construction.

- I notice you'll fill a sidewalk gap on the part of Barton that leads to the entrance to M14. Could you specify where that will be and where there will be new crosswalks across Barton on that stretch?

  Some of the sidewalk recommendations are just a restatement of the City's master plan for providing sidewalks. Particular crossing locations have not been determined, but one likely

location involves an existing connection out from the boardwalk located about one third of the way from Brede Place towards the EB ramps with M-14.

- Are slightly elevated crossings near A2steam under consideration?

  By this, we assume you are referring to using a table-top speed hump and placing the school pedestrian crossing atop this feature. We have not considered this treatment but will now do so.

- Historical proposals for a STEAM drop off as indicated on your slide have been ruled out as too close to the Barton/Pontiac intersection, has that changed?

  As depicted, the entrance to the drop off area is about 430' from the signalized intersection of Pontiac Trail and Barton Dr. The OHM team does not consider this distance as an insurmountable issue. It is recognized that this is a suggestion to AAPS and they are at liberty to accept or reject this proposal.

- Is there anything proposed for the John A Woods and Traver intersection?

  Only recommendation so far is related to providing sidewalk along the north side of Traver from John A Woods to Barton Dr.

- Is there possibility of getting the Barton Street parking removed to complete the bike lane?

  The removal of the limited on-street parking along the south side of Barton from Chandler Rd to Pontiac Trail was discussed during the RSA. Use of this extra space could be for an auxiliary right turn for vehicles, a bike lane, or just moving the curb and narrowing the road for a traffic calming effect.

- Were there considerations of eliminating on-street parking to accommodate dedicated bike lanes? e.g. Wall Street? There's certainly enough parking around there.

  The City is considering changing the cross section of Wall St. There currently are narrow dedicated on-street bike lanes along most of Wall St. One of our recommendations is to increase the width of those lanes to make it safer for cyclists, reducing the problems with cars' doors being opened and interfering with their use. At this time, no consideration has been given to remove any of the on-street parking for Wall St.

- Getting from Northbound Division over the Broadway Bridge onto Pontiac Trail is problematic, and plans on making that easier to do?

  Later in the presentation, there will be alternatives offered regarding possible changes for motor vehicles and others in this area.

- What is the rationale for a bike boulevard on Chandler? It will provide an alternative to Pontiac for bikers (which we already use) but it won't solve any of the main problems for bikers needing to cross the B-way Bridge

The idea of a bike boulevard was put forward during one of our meetings with the public 'office hours' by a cyclist. It is correct to say that it is not related to the problems of crossing the Huron River.

- Was there any consideration toward making better *off-street* connections over the Broadway bridge aside from just painted bike lanes?

  As will be shown in the presentation later, there have been alternatives identified for changes to the south side of the bridge, re: Broadway, Division and Beakes. One change proposed north of the bridge is for a new and better connection to the Border to Border Trail.

- The width from accommodating parking on Barton encourages faster speeds. does the study consider removing the parking and adding a treatment like bumpouts or protected bike lane to make the road narrower & slow speeds?

  As already noted, there are alternatives under consideration for changes for this portion of Barton.

- Has reducing the width of Broadway bridge been studied?

  We assume you are referring to reducing the number of travel lanes, not the width of the structure itself. Last year, as part of the City's Health Streets program, Broadway was reduced to one lane in each direction. Doing so again is not part this year's program. With the Broadway Park development (former DTE site), their access to Broadway will be signalized, and to provide a left turn lane on Broadway into the site the other lanes will be narrowed.

- Are there plans for more bus stop shelters?

  We have identified locations where there are no bus pads for waiting transit patrons, or the locations are not ADA compliant. While the City can make recommendations, AAATA is responsible for identifying and erecting bus stop shelters.

- If I remember correctly, AAATA removed a bus stop on the north (southwest-bound) side of Plymouth Rd. a few years back, because it was inaccessible without diving across 5 lanes of traffic. Was there any consideration toward building pedestrian infrastructure (e.g. a mid-block crosswalk with an RRFB) that would allow reinstating that stop?

  This concept was part of the discussion of the Plymouth Rd construction. It was not made part of the design. We will contact AAATA to discuss if they are interested in re-instating the bus stop and will consider what would be the appropriate infrastructure to support such a bus stop.

- What is the objective of using changeable message signs and other technologies? Will they reduce speeds or increase throughput?

  The goal of using CMS as a form of Intelligent Transportation System (ITS) is to provide warnings of unusual conditions so motorists can plan alternate routes to avoid needless delays. An example would be related to the Ann Arbor Railroad and how their freight trains block multiple road grade crossings. If CMS were available, say on M-14 in advance of the interchange with

Barton, maybe the traffic using Barton to get to Lower Town or to downtown would use a different route knowing that they would be otherwise blocked by the train.

- Is there consideration of dieting Plymouth? The volumes there are 27K so it would likely increase delay, but it would greatly increase driver, bike, and pedestrian safety.

  Usually the upper bound for considering a road diet of 4 or 5-lane roads is about 12k to 15k. As Plymouth has considerably more that that, it was not a consideration of the OHM team.

- There have been mentions in plans to restore 2-way traffic to 5th and Division, which would reduce design speeds. Did your alternatives and analysis consider or recommend this eventuality?

  The project team has only just learned within the last week that a discussion has started regarding the two-way conversion of these roads. We have not yet considered how this would influence our findings or recommendations.

- Would reducing Broadway Bridge to one lane each direction, with protected lanes reduce crash points?

  The conflict points noted in the presentation are between movements and are not numbered by the number of lanes. So reducing the number of lanes on the Broadway Bridge will not impact the count of conflict points.

- Division and Broadway on either side of the triangle have volumes of 11 and 13K. Why isn't dieting these lanes a consideration?

  As previously noted, the upper bound for considering a road diet of 4 or 5-lane roads is about 12k to 15k. This is for two-way traffic; thus the implication is for a range of 6k to 7.5k per direction. Division and Beakes have volumes almost double the range for road diets, so we had not considered this option.

- If the old DTE lot is developed, would there need to be a left turn lane on the northbound side of the Broadway Bridge?

  Our understanding this that the Traffic Impact Study (TIS) for the development has indicated that its access should be signalized and, yes, there should be a dedicated left turn lane provided

- Have considerations been given to potential growth of micro-mobility like scooters?

  Scooters were not separately considered. It would be appropriate to think about them as having similar characteristics as bicycles.

- If there is a roundabout at Broadway and Plymouth, what happens if there is a high frequency of HAWK requests by pedestrians at vehicle rush hours?

  HAWK signals are to be push-button activated by pedestrians. There is a range of ways to program them. If the City wishes to give priority to them, then each new activation by a pedestrian could be immediately responded to by the signal. To balance between the competing uses, alternately, a short delay of a few seconds may be programmed in before the

signal stops vehicle traffic again. As the delay is increased, the weight of favoring cars becomes greater. It would be up to the City of decide.

- Isn't Pontiac Trail a state road? We have been told there can be no real traffic calming because of this

  Pontiac Trail is a minor arterial and belongs to the City of Ann Arbor. The City does not yet have a policy regarding traffic calming on arterial roads.

<u>Ideas from the Community</u>

- Barton Drive hill can be dangerous for pedestrians as vehicles take this took quick
- Keep the A2STEAM school drop off at the current locations
- Unsure about the idea of parking protected bike lanes
- Interest in removing parking along Barton Dr near Pontiac Trail to complete the bike lane that was recently installed
- This project should be looking at ways to slow vehicles down on the busier streets in the study area. Speeding cars are making conditions dangerous for walkers and bikers.
  - Barton Drive, Pontiac Trail, Plymouth Road, Broadway/Division,
- There was debate amongst the participants about roundabouts and their safety in regards to bikes/peds. Some are interested in roundabouts, while others do not want one.
- A number of participants want a clear message from this project about who the improvements from this study are for. By adding improvements for vehicles, we may be negatively impacting pedestrian and bike conditions.
- Residents are concerned about improving safety and slowing traffic down. Need to consider the context of these improvements as they will be in a residential neighborhood.
- Participants are interested in the intersection improvements proposed for the Division/Broadway/Carey St area
- Enforcement of traffic safety in the Lower Town Area was suggested as a way to improve conditions
- Participants were interested in the idea of a roundabout at Plymouth/Broadway/Maiden Lane
- Participants were interested to understand what the recommendations were based on – data, anecdotes, observations, or experience.
- Participants are interested to know MDOT's plans for M-14 and Barton Drive.

Summary of Lower Town Mobility Study Presentation - Public Meeting of 9/23/2021

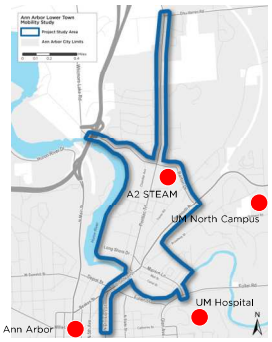
This is the fourth (and last public meeting). It is to report out the recommendations of our project team. It includes which alternatives are being proposed for implementation. Changes as a result of previous public comment are included in the recommendations.

The study is to look at all modes of travel in and around the Lower Town Study area.

What We're Studying

Purpose is to identify opportunities to make traveling easier within Lower Town.

Looking Specifically at:
- Pedestrian Movements
- Bicycle Travel and Connections
- Public Transit
- Roadway Safety
- Traffic Congestion
- Intersection Designs



The study area is depicted as the dark blue outline on this map. The northern limit is Pontiac Trail at Dhu Varen. To the west is Barton Dr at the M-14 interchange and we follow Barton east to Plymouth Rd. Looking to the south, we include Division St starting at Catherine St. Following it north, it includes the area north of the Huron River, as well as the intersection of Maiden Lane at Fuller Rd by the U of M Hospital.

Study Process

- Two Year Timeline
- Approximately 90% complete

The project process is shown on this slide. We kicked off the study with an internal team meeting, progressed to the stakeholder meetings, and held several meetings with the general public to better understand the existing conditions and concerns of the study area.

After finishing the Conditions Analysis phase, we met with the public to explore the vision they have for Lower Town and goals related to achieving that vision.

We identified a series of alternatives, which were presented to the public at our last meeting in June. After considering the feedback from that meeting, we are presenting our preferences between the alternatives.

Outcomes of the Study

- Identify ways to improve mobility for all users
  - Pedestrians, cyclists, transit riders, drivers, etc.
- Explore opportunities to change travel habits
  - Changing travel habits and patterns can help limit congestion issues
- Innovative solutions that improve efficiency of the system

Today's Public Meeting

- Identification of recommended mitigations, and alternatives being considered
- Looking for Further Input

The key focus of today's meeting is to present the improvements and alternatives we believe are best suited to further the vision and goals for Lower Town.

We want to hear you reactions to these recommendations.

What We've Heard

Stakeholder Concerns

- Gaps in non-motorized facilities
- Few walkable businesses
- Growing population in area
- Peak hour congestion from commuters
- Inadequate public transit frequency
- Traffic safety discourages walking/biking
- Speed management
- Limited crossing opportunities of Huron River

What We've Heard

Concerns from Virtual Office Hours

- Specific areas in Study Area in need of safety improvements
- Residents don't feel comfortable walking and biking
- Transit is not frequent enough to use
- Heavy traffic from M-14 coming through area
- Bike infrastructure is disconnected
- Safety concerns around A2 STEAM school
- New development is adding to traffic
- Safety conflicts between bikes and pedestrians

What We've Heard

Opportunities

- More frequency and more visibility to transit
- Easier access to Border-to-Border trail
- Add more mixed-use retail to new developments
- Improve snow clearance in winter for bikes and peds
- Add safe crossing infrastructure
- Create a cultural shift to more walking and biking
- Educate public on safely using streets
- Right-sizing streets and intersections

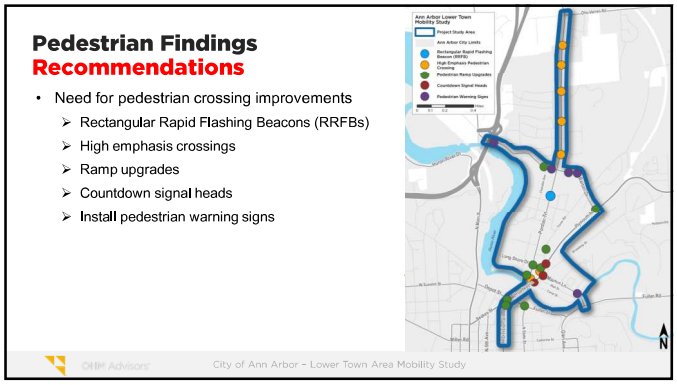
Transportation Demand & System Management Alternatives (TDM & TSM)

- Operational Deficiencies
  - Congested peak periods of travel
  - Vehicle emissions
- Improvement Alternatives
  - Improved non-motorized conditions
  - Improve public transit, more Park & Ride options
  - Ridesharing programs
  - Incentives to give up parking
  - Flexible work times
  - Transit supportive development

Pedestrian Findings

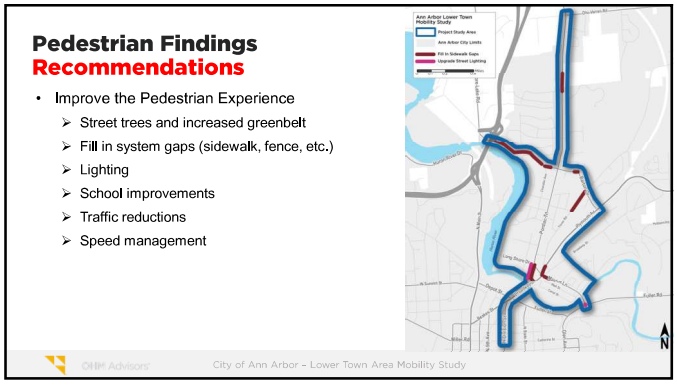
- Need for pedestrian crossing improvements
  - Rectangular Rapid Flashing Beacons (RRFBs)
  - High emphasis crossings
  - Ramp upgrades
  - Countdown signal heads
  - Install pedestrian warning signs

We used PEQI as a tool for pedestrian analysis, which relates the nature and conditions related to their facilities and provides a score that corresponds to the suitability for pedestrian use, comfort and safety. It was evaluated in conjunction with the extensive field reviews done during the Road Safety Audit. We identified the issues, shortcomings, and deficiencies that need to be addressed.



There were specific locations identified that had discrete needs for improvements. These locations and treatments will be detailed in our report to the City, as well as the relative range of costs to implement them.

This slide shows the spot locations to receive specific treatments.



This slide shows the segment locations to receive pedestrian improvements.

Importantly, we identified the gaps in sidewalk that would provide a significant impact for pedestrians.

Bicycle Findings

- Cyclist Amenities
  - Wayfinding signage
  - Beginning and end of routes
  - On street bike lanes

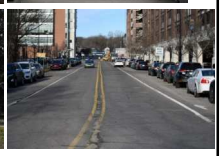




Bicycle Findings

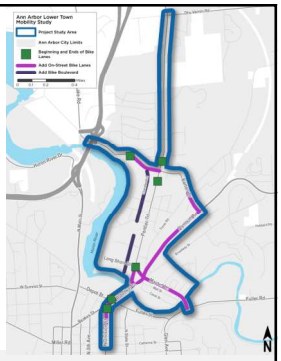
- Safety Features
  - Bike lanes blocked
  - Obstructions
  - Boardwalk
  - Bike boulevard
  - Lanes adjacent to parking



Bicycle Findings
Recommendations

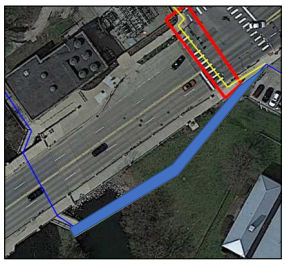
- Safety Features
  - Bike lanes blocked
  - Obstructions
  - Boardwalk
  - Bike boulevard
  - Lanes adjacent to parking



The key improvements identified involve segments to add on-street bike lanes and specific locations where the beginning and ending of bike lanes need better treatment.

Pedestrian/Bicycle Recommendation

- Cascades Access
  - Connection from south side of Broadway Bridge to Riverwalk
  - Reduces pedestrian/bicycle crossings of Broadway



City of Ann Arbor – Lower Town Area Mobility Study

One special improvement we are recommending involves the use of parking southeast of Broadway as overflow for folks using the livery for the Cascades. Currently they have to cross Broadway at Swift, with some carrying their kayaks.

We are suggesting that a path be built along the south side of Broadway and connect to the existing boardwalk that runs under the Broadway bridge.

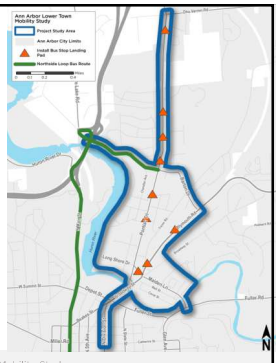
Transit Findings

- Rider Amenities
  - Increase frequency and reliability
  - Upgrade bus stops for ADA compliance
  - Additional park and ride opportunities
  - Eliminate bus stop conflicts
  - Transit Signal Priority

City of Ann Arbor – Lower Town Area Mobility Study

Transit Findings Recommendations

- Rider Amenities
  - Increase frequency and reliability
  - Upgrade bus stops for ADA compliance
  - Additional park and ride opportunities
  - Eliminate bus stop conflicts
  - Transit Signal Priority
  - Fixed bus route Barton to Main via M-14



City of Ann Arbor – Lower Town Area Mobility Study

As with pedestrians and bicyclists, there were general and specific improvements identified for transit. These were a reflection of issues raised by the public, stakeholders and the field work by project staff.

Next Steps

- Summary of Public Meeting #4
- Further Consolidation and Refinement of Alternatives
- Final Report Development

MV Findings

- Infrastructure Improvements
  - Pavement Markings
  - Sign Upgrades
  - Pavement Condition
  - Guardrail
  - Signal Modernization
  - EV Charging Stations
  - Intersection Specific


MV Findings
Recommendations

- Driver Technologies
  - Changeable Message Signs
  - Speed Management & Warning Systems
  - Transportation System Management
  - Transportation Demand Management

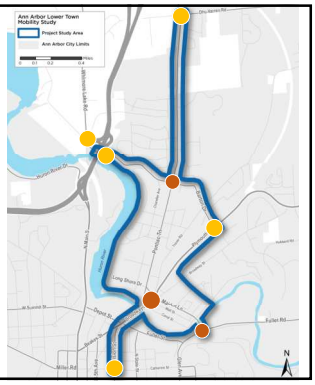


When it came to vehicle traffic, there were specific locations identified that had discrete needs for improvements. These needs came from several sources and study efforts.

High Congestion Intersections

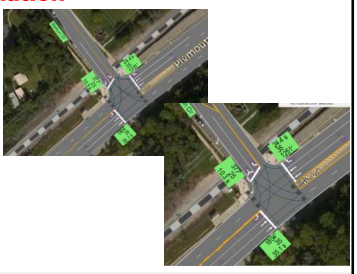
Based on Model
- Plymouth Rd at Barton Dr
- M-14 at Barton Dr Interchange
- Dhu Varren Rd at Pontiac Trail
- Division St at Catherine St

Based on Observation
- Barton Dr at Pontiac Trail
- Maiden Ln/Broadway St/Moore St
- Maiden Ln at Fuller Rd



Barton at Plymouth
Alternatives/Recommendation

- Operational Deficiencies
  - SEB Barton left-turn movement failing in AM peak hour
  - 70+ seconds of delay
- Improvement Alternatives
  - Add a 2nd left-turn as a shared left/right turn lane
  - Reduces delay by 20+ seconds
  - In the future shows greater improvements



At Barton and Plymouth, the very high left turn demand from EB Barton to NE bound Plymouth is an issue. This causes very long delays, especially in the a.m. commuter peak.

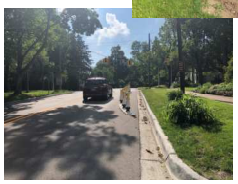
Our recommendation is to take what is now an exclusive right turn lane on Barton and allow an optional left turn from that lane. Allowing for dual left turns will greatly reduce delay.

Barton at Pontiac Alternatives

- Operational Deficiencies
  - On-street parking at intersection
  - EB approach in AM peak (35 seconds of delay)
  - Bike lane continuity
- Improvement Alternatives
  - Add dedicated EB right-turn lane (cut delays in half)
  - Modern Roundabout (cut delays by more than 50%)

Barton at Pontiac Alternatives

- Improvement Alternatives
  - Restrict on-street parking on EB approach
  - Temporary bump-out with option to make permanent



Barton at Pontiac Trail is a problematic location. There is a fair amount of delay here, especially in the morning for EB commuters. However, there are competing demands for improving conditions for bicyclists, and residents wanting to preserve on-street parking on Barton west of the intersection.

Barton at Pontiac Recommendation A

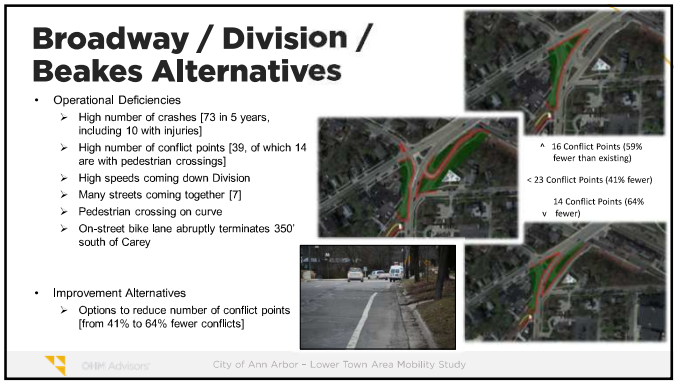
- Remains signalized
- Restrict on-street parking on EB approach
- Add on-street bike lanes for EB and WB on Barton west leg
- Future Traffic Increases
  - Existing AM LOS C / 2040 LOS F
  - Existing PM LOS C / 2040 LOS D
  - Ex vs. 2040 AM SB volume = 628 v 996

We are recommending that the initial change should be the elimination of on-street parking for Barton west of the intersection. In it's place, provide on-street bike lanes for both directions along Barton.

Barton at Pontiac Recommendation B

- Mini Roundabout
- Bikes can leave roadway onto path or circulate in roundabout
- Pedestrians cross one lane at a time to splitter (median) island
- Future Traffic Increases
  - Ex overall LOS B for AM/PM
  - 2040 LOS D for AM/PM

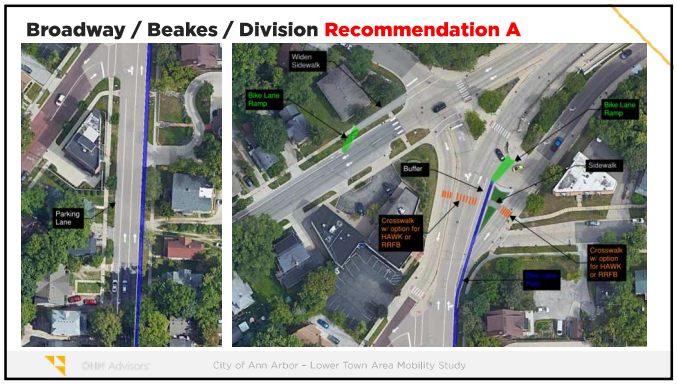
A longer term recommendation, one that would represent a better balance between drivers and non-motorists, would be a single lane roundabout.



The junction of Beakes, Broadway, and Division (and four other streets) is the most problematic location in the study area. It is the highest crash location and the location of a number of collisions with pedestrians.

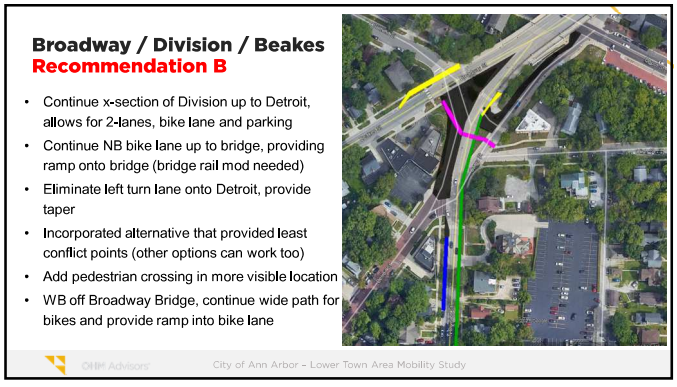
Using conflict points (vehicles to vehicles, and vehicles to pedestrians) as a surrogate for safety, we identified several ways this area could be reconfigured to simplify the junction, better protect pedestrians and generally slow traffic.

The configurations what best reduced conflict points (improve safety) would require the inconvenience of drivers the most by cutting off access to various side streets, requiring them to detour / reroute.



We recommend that the City initially focus on improving pedestrian and bicycle safety. The third travel lane for NB Division (west curb lane) should be relegated to a narrow parking lane and the surplus space used to carry the on-street bike lane further to the north to just short of the Broadway bridge.

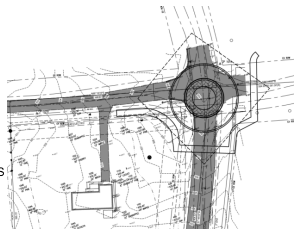
The pedestrian crossings of Broadway north of Summit St / Carey St has extremely poor visibility. It should be eliminated and a new crossing protected by HAWK signals provided in the approximate location shown in this image.



The longer term answer, one that will address the high number of crashes, is to reconfigure the intersections. The goad is to simplify the intersection's complexity, reduce the number of vehicle and pedestrian conflicts and use an altered geometry to slow vehicle speeds.

Pontiac at Dhu Varren Alternatives/Recommendation

- Operational Deficiencies
  - EB/WB under stop control
  - High speeds on Pontiac Tr
  - WB Dhu Varren delays in AM peak (LOS E, 36+ seconds of delay)
- Improvement Alternatives
  - Analyzed for signal (all approaches 20 seconds or less delay)
  - Recommend - Analyzed for roundabout (LOS A, less than 8 seconds of delay per approach)
    - Reduces Speeds

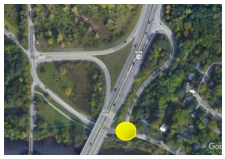


Pontiac Trail at Dhu Varren is one of the more straightforward locations to consider. The intersection is seeing ever increasing delays on Dhu Varren given the existing two-way stop control it operates under.

This location is an excellent candidate for a single lane roundabout and we so recommend one be installed.

Barton at EB M-14 Ramp Alternatives

- Operational Deficiencies
  - All way stop intersection under MDOT jurisdiction
  - Off ramp approach failing in AM (55+ seconds of delay)
  - WB Barton fails in PM (59+ seconds of delay)
- Improvement Alternatives
  - Performed signal warrant analysis
  - Signal option could reduce delays
  - Deferring to MDOT, studying entire interchange configuration



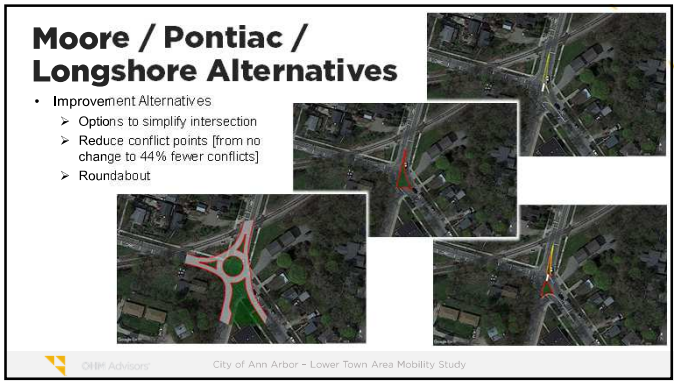
Barton Dr at the EB M-14 exit ramp is also somewhat straightforward. Currently an all-way stop, the volumes throughout the day are now such that this control is not functioning well.

While we found that this location meets warrants for the installation of a traffic signal, we are not making this our recommendation. MDOT is in the process of a broader evaluation of this location, and we defer to their study to identify appropriate improvements.

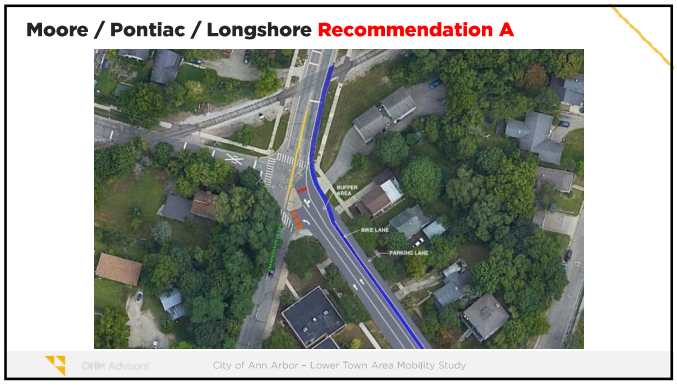
Moore / Pontiac / Longshore Alternatives

- Operational Deficiencies
  - One-way pair south of intersection
  - Pedestrian crossing issues – north leg
  - Confusing geometry
  - Speeds
  - Train track near intersection
  - Bike lanes north of intersection

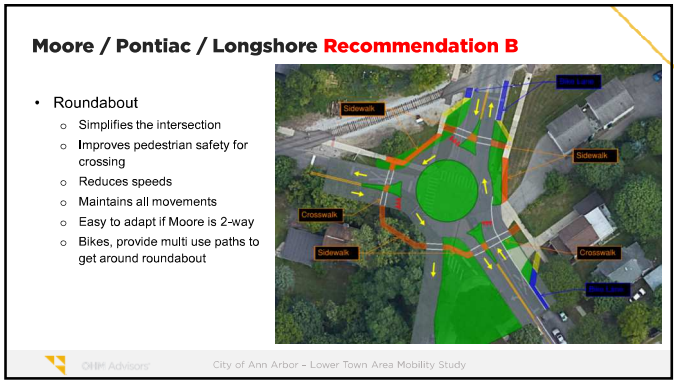
While not as complex as the junction of Beakes, Broadway, and Division, this intersection does have some significant issues. One of particular concern is that traffic making a right turn from Moore to NB Pontiac Trail are not required to stop and so are putting pedestrians at risk who are crossing Pontiac Trail.



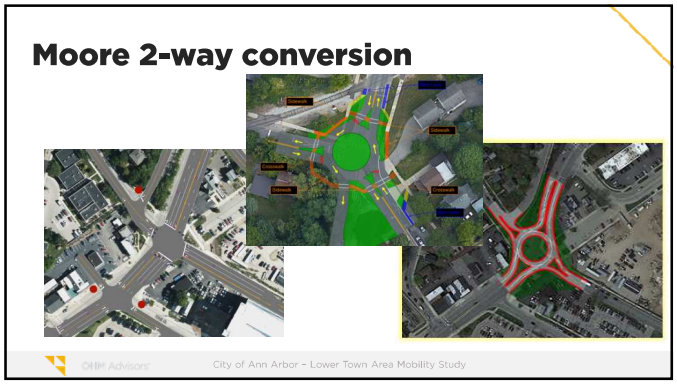
Using conflict points as a surrogate for safety, we identified several ways this area could be reconfigured to simplify the junction, better protect pedestrians and generally slow traffic.



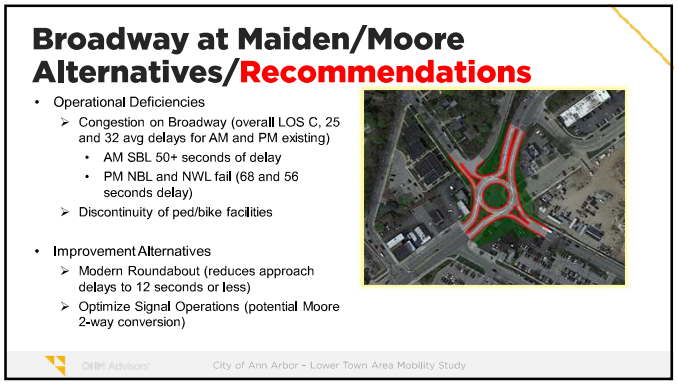
We recommend as an initial improvement that lane widths on Moore be reduced. The extra space would be to provide a on-street bike lane, which could wrap around the corner and link up with the existing one on Pontiac Trail. Rather than the current free flow movement of Moore turning right onto Pontiac Trail, this would be put under the control of a Yield sign. The overhead flashing beacons would be removed.



The longer term answer is to simplify the geometry by constructing a single lane roundabout. This may be desired especially if the City wishes to convert Moore St from one-way to two-way traffic movements. Depicted is a roundabout concept that works with Moore carrying two-way traffic.

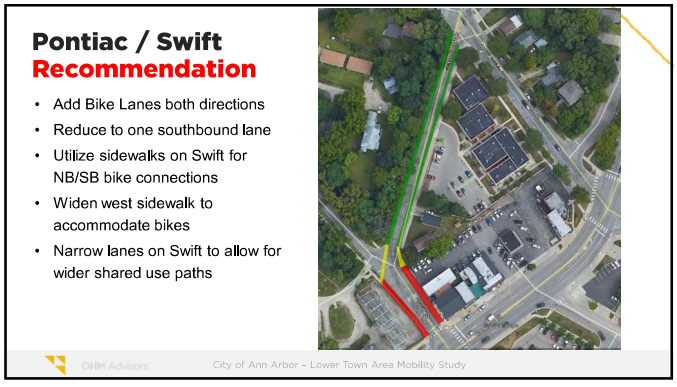


This leads into the issue of whether Moore should remain one-way or not. There are both signalized and roundabout options available to handle the transition to two-way movements for Moore at Broadway / Maiden Ln



We then considered the appropriate treatment for Broadway at Maiden Ln and Moore St. There are significant delays at this signalized intersection, especially in the morning and evening commute times. Retiming the signal does not hold any promise of improving this situation.

We identified that a 2-lane roundabout would significantly reduce delays while also helping to reduce the severity of any crashes that may still occur. Constructing a roundabout here is our recommendation.



Finally, we looked at the remaining portion of Pontiac Trail and its connection with Swift St. Pontiac Trail pavement can be narrowed to provide the space to add sidewalk and a on-street bike lane.

Swift should have a bike lane in both directions.

Speed Management Alternatives

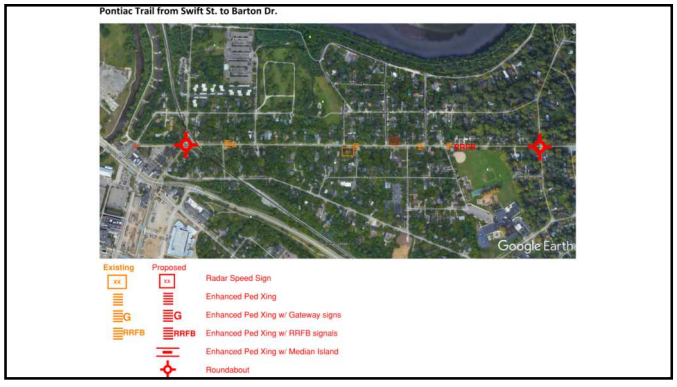
- Operational Deficiencies
  - Corridors with noted high speeds (Broadway, Pontiac Tr, Division, Plymouth, Traver)
  - Pedestrian and Bike Safety
- Improvement Alternatives
  - Roundabouts
  - Median islands
  - Neckdowns
  - On street parking
  - Speed actuated signing
  - Gateway treatments
  - Bike Lanes

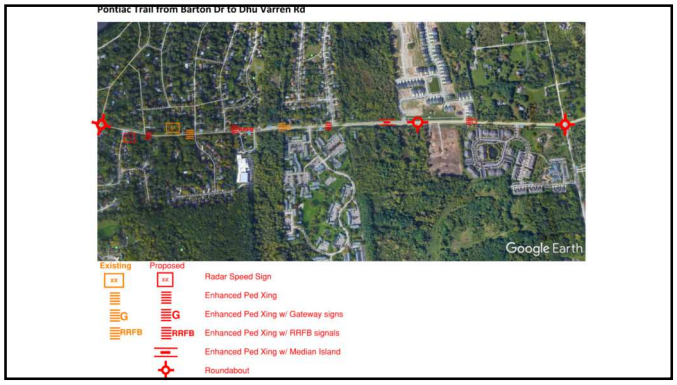
The topic of speed management has been a recurring theme in our discussions with stakeholders and the public. We have identified a series of measures, the toolbox, for use in addressing speeding concerns.

Speed Management Recommendations

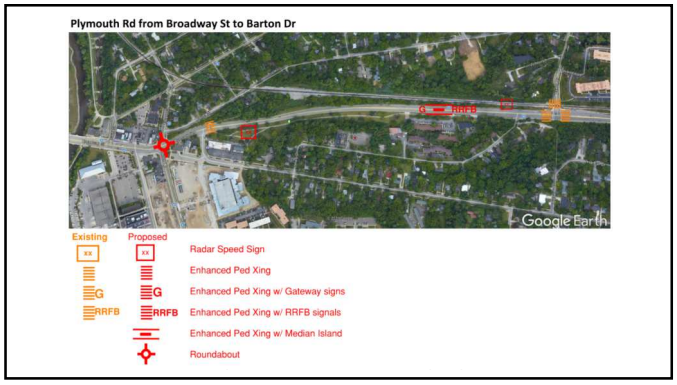
- Pontiac Trail
  - Roundabouts at Dhu Varren, Barton and Longshore, possible location between Barton and Dhu Varren at new developments
  - Additional radar speed signs
  - Marked pedestrian crossings
  - Gateway treatments
  - Lane reduction from 2 to 1 from Longshore to Swift with added bike lanes

Here are the specific recommendations for speed management in the Pontiac Trail corridor. This slide notes the type of treatments being proposed and the following two show the locations where they should be provided.





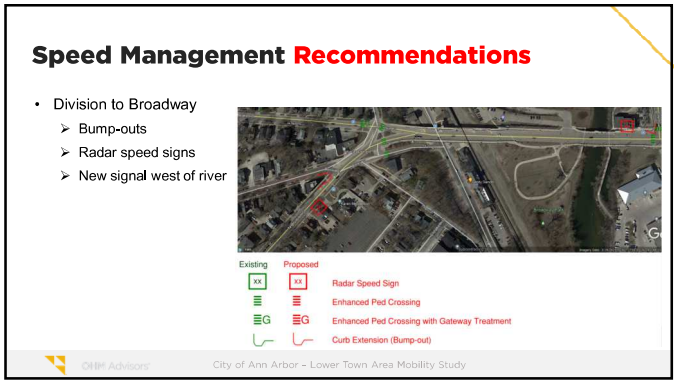
Here are the specific recommendations for speed management in the Plymouth Rd corridor. This slide and the next notes the types and locations of treatments being proposed.



Similarly, here are the specific recommendations for speed management along Traver Rd. This slide and the next notes the types and locations of treatments being proposed.

Of particular import in the recommendation that sidewalk can be provided along the northwest side of Traver between John A Woods and Barton by narrowing the road pavement.Here are the specific recommendations for speed management in the Plymouth Rd corridor. This slide and the next notes the types and locations of treatments being proposed.

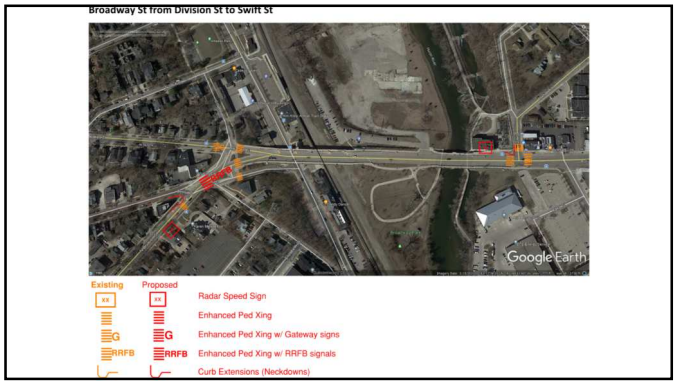
Similarly, here are the specific recommendations for speed management along Traver Rd.



Just as the confluence of Beakes, Broadway and Division is notable for the complexity of the junction, so is the need for speed management until such time as the geometry can be modified.

We are recommending a mix of radar speed signs, curb extensions (bump outs) and improvements to pedestrian crossings as a starting point.

These types of treatments would be continued to the south along Division.



Questions and Answers

There were several questions raised during the course of the presentation. The questions and their answers, as well as the ones received after completion of the presentation, are summarized starting at the end of this presentation.

Lower Town Mobility Study – Public Meeting 4

9/23/21

Meeting Notes

Attendees

- Eric Dryer (OHM)
- Steve Loveland (OHM)
- Steve Dearing (OHM)
- Luke Liu (Ann Arbor)
- Amelia
- Anne Bannister
- Barbara Lucas
- Glenn Hieber
- Jan Adams-Watson
- Jeff Hayner
- John
- Katherine
- KJMC
- Lester Wyborny
- Molly Boren
- Sadira
- Tom Stulberg
- Robert Klingler
- Lidia Pomana
- Chris F
- Ann Lund

Questions or Comments with Team Responses

- There is a need to differentiate between local traffic and commuter traffic. Changes in mode are need not just for local traffic.
    - Thanks for the comment, Councilmember. Data shows that approximately 55% of overall traffic in the study area are from 'pass by' trips. Travel demand management strategies including this group are important.
- Is the ramp area by the Bridge ROW or DTE owned property?
    - Not sure who exactly owns this property, but the project team will look into it.
- You looked at bike lanes, but did you consider upgrading the bike lanes that are there? I'm thinking of the treatment the city did on Plymouth.
    - These are some areas where buffered bike lanes have been added in the study area. Plan is also recommending additional bike lane connections.
- Being that lots of traffic is Pass-through, and incentives are being considered for things like reduced parking, how about incentives for grocery stores/hardware stores, etc. to locate in Lower Town so people can walk or bike to them instead of drive out of the area?
    - We've heard the discussion that people would like to see more walkable businesses. More than half of all trips are pass through trips from commuters. Some new parking assets in the new developments as well.
    - No detailed recommendation related to land use changes and engineering staff will have continued conversations with planning staff.
- I have serious concerns about a roundabout at Pontiac trail -Barton. I'm 3 houses from Barton on Pontiac trail. I'll never be able to back out of driveway if no red light. Everyone near me would have same problem.
    - The mini roundabout is the recommendation of the consultant team, but it will be up to the City to decide if they wish to accept this recommendation.
- Speed limits for Division
    - Speed is only part of the equation and other design changes are needed to reduce conflict points and use geometry to control speeds. This will help reduce the number of crashes.

- What's the timing around rethinking the Barton/M-14 interchange?
    - Not sure when construction would happen, but the study of the interchange is happening now.
    - MDOT has not released timing for finishing their study, but they have released drawings for what they are considering.
- Have you thought about encouraging Barton traffic to travel down Pontiac Trail instead of traveling further down Barton Rd past the school to reduce the congestion by the school?
    - Part of this study included a travel demand model. This showed that a large portion of M-14 traffic is going to Plymouth along Barton to access UM North Campus. It would be very difficult to change this travel behavior / pattern for these trips.
- Could the biking lanes be close to the curb (at Pontiac Trail/Moore/Longshore roundabout), separated from traffic by parking spaces, instead of having parking be close to the curb?
    - It's an option; there is room to have a bike lane either alongside the travel lanes or buffered by the parking. But it has not been explored in detail.
- With respect to vehicle speeds on Traver, I think that a speed table just west of Barton near the intersection of Barton to reduce vehicle speed near the school would be a good idea. The idea of one sidewalk in the roadway which narrows the roadway, but still allows car parking on the non-sidewalk would also help to reduce vehicle speed. Finally, the use of student drop-off on Traver near Barton should be eliminated somehow.
    - A speed table at John R Woods would be difficult due to the grade changes limiting visibility to it. We are recommending keeping the enhanced ped crossings at its current location slightly removed to the southwest of the intersection.
- Has another access point from the highway been considered, towards Pontiac Tr/Dhu Varren, to divert some of that heavy highway traffic away from Barton Dr?
    - Some years ago the Northeast Study was completed that looked at freeway access to the northern arc of Ann Arbor. It looked at the existing interchanges and considered if there should there be others. There was no recommendation for a new interchange to M-14 due to the challenges with M-14/US-23 junction.
    - MDOT has previously said that the geometry of adding a new on/off ramp - say to allow traffic on/off Nixon/M14 - will not work for the same sort of reason, proximity to that eastern junction of US-23 and M-14.
- You were going to mention buffered bike lanes. My specific question was about possibly making the bike lanes on Pontiac buffered, to make some room for when people put trash cans there, as well as narrowing those very wide lanes on Pontiac.
    - Currently not room to add buffered bike lanes; would require the roadway to be widened to comply with the city standards.
- What happens next now that you have identified the solutions you want?
    - When the city receives the final set of recommendations, they will be screened for their feasibility for construction. Final recommendations will be looking at opportunities to fund and implement each project.
    - Smaller projects can be implemented quicker, larger projects will need more time to design and construct.
- Have you considered forcing student drop-off on Traver near Barton to elsewhere?
    - We have a recommendation to add a loading and unloading zone to the school on the north side of the property and an upgrade the staff parking lot with defined aisles and stalls. This is an idea that was floated to the school but has not been accepted by the school or the city.

        - To Lester's point, at the last meeting didn't we talk about student pick-up and drop-off moving to AAPS property off Taylor Street?
            - There is already a great deal of parent traffic on Taylor and Peach Streets related to student drop off and pick up.
        - Oh my… please! Do not encourage any new drop off circle, that is out of control. This is not a magnet school, it's a neighborhood school. If parents don't like the drop off they can remain in their AAPS districted school.
            - Actually it is a K-8 magnet school.
        - Many students who attend STEAM are from out of the neighborhood!
        - There's no way that proposed drop off loop would ever work in the mornings with the rest of the traffic in this intersection area.
        - AAPS told the public that drop off loop would be too close to the Pontiac Trail and Barton intersection.
            - Actually, the proposed driveway to Pontiac Trail would be about 445' from Barton. This is about 135' further from Barton than the existing intersection of Starwick is to Barton.
        - Does this team think it is practical at that location? It is definitely needed.
            - The OHM team believes that the location is practical.
        - Well, rather than create another drop-off, just eliminate drop-off at Traver to eliminate congestion at that intersection of Traver and Barton.
- Are considerations given to the effect these road geometry changes potentially have on storm water management?
    - Not at this point, but there will be space for storm water treatments that will be explored in the implementation phase.
- Can you share all the recommendations that you made to the school district?
    - There is a section in the Road Safety Audit and a powerpoint presentation that contains all of the recommendations related to the school.
- Parking and drop off at STEAM school is split by grades. What does AAPS like if they do not like proposed loading zone?
    - We can revisit our recommendations for the school and provide a priority recommendation for them to implement.
    - Some recommendations were on-site for school while others deal with drop offs and picks up, signage, and the loading zone.
- Issues with stormwater runoff from school due to limited storm drains. Some areas with ADA ramps around town have had stormwater issues recently due to changes in geometry. Are we creating harmful conditions for stormwater to address mobility concerns?
- Thank you OHM and City Staff - Luke Liu and all. CM Hayner is making an excellent point about the stormwater impact of the geometry changes. Solving one problem and creating another. Unintended consequences.
- There is currently a left turn prohibition for south bound Pontiac turning onto Starwick, except for buses. Any chance we could consider allowing cyclists make that turn?
    - According to the vehicle code, cyclists on street must follow traffic rules of vehicles. The traffic control order would need to be edited to allow for that movement legally.
- Idea is to allow cyclists to have a safer route through the area to North Campus.
        - Ken, you are one of the few who would notice or follow that rule, that's why I love you. I agree we should exempt bikes from that it's a safer route.

- Did we come up with a better solution to the S bound bike lanes that end at Pontiac Trail/Longshore?
    - Looking at changing Moore/Swift to one lane and turning the other lane into a protected bike lane.

Comments from Community Members

- Great presentation! In the future, it would be helpful to have approximate costs vs. public safety priority of these recommendations. I love the under the south side of the Broadway Bridge connector!
    - The final report will indicate the cost of the individual recommendations, expressed as a range of costs.
- Concur: "I love the under the south side of the Broadway Bridge connector!" Not a Question, just a comment.
- Continuing on the question above, the old gas station next to the Cafe could be an amenity that the community could use instead of having to drive out of town.
- Please advocate for removal of obstructions to developing spaces such as that old gas station!
- The stores have to go somewhere or be more honest about pedestrian choices for those who live here. This is entirely too aggressive.
- Remember the Lowertown "Mixed Use Urban Village" that was taken from us when the current plan was approved. Let that memory inform us at the polls next year.
- I would add Traver and Barton as a high congestion intersection, because of the nearby school which adds kids into the mix and the general practice now to allow Traver road as a drop-off for out-of-neighborhood kids.
    - This is currently an all-way stop controlled intersection. While true it struggles during the commuter peak periods, the rest of the day it handles traffic acceptably well.
- The bump out has been fantastic for slowing cars across the turn and stopping them from jumping the curb. So much safer to cross. Cars actually stop before turning right now.
- I worry it would be very dangerous for residents to back out of their driveways with a roundabout.
- As a cyclist who's biked a lot in Europe and through the roundabouts in Ann Arbor, there's no problem with cyclists in roundabouts that isn't worse with the existing layout. People need to remember that roundabouts force everyone to slow to a safe speed that's very comfortable for biking.
- In general, I would love to see us shift away from painted on bike lanes and move towards dedicated biking paths for riders of all abilities/ages.
- Speed limit down Division is too high. People tend to go ~5 mph faster than the speed limit. Please add the "This is your speed" signs that give people feedback on their speed. I agree that changing the geometry will help, but until then, we need the lower speed limit with biofeedback signs there.
    - In a subsequent part of the presentation, proposed locations on Division and Broadway for radar speed signs were pointed out.
- As you're pointing out, the problem is the high speeds at Broadway/Beakes/Division. But that's a general problem in Ann Arbor - so much dangerous speeding.
- As long as these geometries (bump outs etc) don't have a negative influence on the streets function of storm water management. I have been observing this around town lately with all the rain.
- If you are congesting the bridge, Division should be more addressed more honestly. Crashes happen. The issue is City Hall glutting known speed zones. Retain Ward 1 assets. People are watching this.

- I would like to see the lights timed on Plymouth into town so you don't have to stop at Moore and Pontiac Trail. Plymouth Road from Barton to Moore is very rough. You need a lot of space for parking lane and bike lane on Pontiac Trail going North to put the snow.
- The red light to turn right onto Broadway from Pontiac Trail (Swift St?) is extremely long. I would like to see it cycle faster for short times so traffic can get through.
- I'd second Robert's point here. For a time we had a shorter cycle there, but it's gone back to the really long cycle times again, even though there are usually sizable gaps most of the time. Maybe a cycle timing that changes at peak times?
- The timing does need to be revisited, I agree. The No Turn On Red at midnight is a challenge for folks, can that be automated?
    - Regarding these comments / question on signal timing, it is agreed that signal cycle lengths should be generally short. However, when there is significant congestion, increasing the length of the cycle actually reduces overall delay. It is a balancing act. The idea is to run the best length of cycle related to the level of traffic demand. So, yes, the cycle length should be changed for time of day and peak loadings.
- Please keep left turn from Division to Beakes. Sidewalk could be contoured better.
- Mini roundabout on Pontiac Trail. My God
- I favor roundabouts but get the construction done before Sept 1.
- The city seems to have removed that south-bound radar speed sign (formerly at Manor).
- BTW, the staff at Rudolph Steiner High School, on Pontiac North of Barton, has started the process to get a school speed zone put in there.
- Boondoggles like this are supposed to be expensive.
- I hope AAATA might help pay for the reinstallation of the bus stop amenities on Plymouth Road.
- I hear you Glenn Hieber! City staff insisted on hiring OHM Advisors for this ~$600,000 analysis of all the possibilities.
- This is culpable overkill, seemingly for the purposes of enabling the know showroom kleptocrats caught on their mark. I have not heard one issue commensurate with any of these ambitions. Not one.
- Respect the area. Bring a plan that is in the City's interest. Do we need to recharter Lower-town? The City merged it during the last civil war. Respect the ancient, hallowed area and enable metropolate somewhere else. You will feel better about yourselves. Seriously.
- A recurring question from the Arrowwood co-ops is whether they need or can have a traffic signal at Arrowwood Trail and Pontiac Trail?
    - This specific location was evaluated for a traffic signal. It does not meet the State of Michigan criteria for the installation of one.
- I greatly support your efforts to make this a safer, less stressful area for pedestrians and bicyclists. THANK YOU! I hope much of it can happen soon—it is so badly needed.
- That is currently a dangerous location for bikes that want to go either destination thank you.