Here are the answers to the questions that were submitted for the A2STEAM Barton Dr. Work Open House:

What is the long term vision for the Barton-Pontiac Intersection?

The long-term vision for this intersection is not being defined as part of this watermain and resurfacing project. The intersection is currently being evaluated in the City's Lower Town Mobility Study. The design being proposed by City staff is consistent with and supported by the City's current Transportation Master Plan, including the City's Non-Motorized Plan.

- **How does this round of proposed changes support that vision?**

  The design being proposed by City staff is consistent with and supported by the City's current Transportation Master Plan, including the City's Non-Motorized Plan.
- **What are future (potential) additional changes that may take place?**

  Any potential future changes to the intersection will be dependent on the available right of way and the findings of the ongoing planning study.

What are the traffic calming strategies that are part of the current design?

The City's Traffic Calming Program is limited to local streets. However, City staff continually look for opportunities to design built environments that will slow people driving vehicles and improve safety for all transportation users. The strategies staff plan to include in this project include limiting space for people operating vehicles, reducing intersection curb radii, and implementing crosswalk design best practices.

What are traffic calming strategies that are being considered as part of this project but are not yet captured in the designs?

There are no additional traffic calming strategies that have not been shown on the conceptual drawings.

Are there limitations to the traffic calming strategies that can be considered because of the designation of the road (as a trunk line)?

Barton Drive is not a designated Truck Route. There are limitation to traffic calming strategies due to Barton Drive's status as a Minor Arterial street.

What are the estimated number of bikers who currently travel this stretch of Barton Dr to Pontiac Trail?

- **How has this data been collected / estimated?**
- **When / how do these bikers utilize this stretch?**
  - **Commuting to and from work / downtown during peak times (e.g. 7-9 am 4:30-6:30 pm)**
  - **Commuting to and from work / downtown midday (e.g. 9 am - 4:30 pm)**
  - **On the weekends (Saturday and Sunday)**
  - **How frequently do they use this stretch? (e.g. daily, on the weekends, on occasion)**
  - **In general, what does the presence of a bike lane communicate to a biker?**

The City does not have an hourly count for people riding bicycles on this section of Barton Drive during all of the periods referenced above. Please note that Transportations staff reviewed the non-motorized plan's recommendation to determine if the recommendation is still advisable.

The bike lanes on Barton would serve the purpose of continuing to build out the City's bike infrastructure and provide a key link for people riding bicycles between this area and downtown either by on-street bike lanes on Pontiac Trail or by the lower stress off street route through Bandemer Park. Research has proven that Cities who invest in improved bicycling infrastructure have better safety outcomes for all transportation users; installing the bicycle lanes would further the City's Vision Zero, complete streets, and carbon neutrality policies. The dedicated lanes will also assist in addressing the desire for greater non-motorized mobility and pedestrian safety expressed through resident contacts from this area.

Although we know that more people are choosing to ride bicycles in the City, in all weather conditions, the question of whether anyone will use the new infrastructure often comes up. A quick method staff use for understanding non-motorized transportation desires is by using the publically available STRAVA heat maps (https://www.strava.com/heatmap). Staff consider STRAVA user data to be a sampling of non-motorized activity and useful to help understand relative desire/demand for facilities. The following map is showing usage for rides logged by STRAVA users. The map shows that this section of Barton Drive has usage levels similar to Miller Ave., Liberty St., and Pontiac Trail, which all have dedicated on-street lanes for people riding bicycles. Staff have determined that the Non-motorized Plan's recommendation is still valid and advisable to pursue.

What does a bike lane communicate to a motor vehicle in the adjacent lane?

A bicycle lane communicates the context of a street to people driving vehicles. This communication is particularly valuable for people who are faced with the sudden context shift of exiting a limited access freeway and entering a neighborhood. The bike lanes communicate the expectation that people driving cars should be actively looking for and responding to people riding bicycles as well as other modes of transportation. Additionally, the recent research shows that investing in bicycling infrastructure improves safety for all modes of transportation.

What are the conditions that trigger the City of Ann Arbor to install bike lanes in a stretch of road?

The City's non-motorized plan provides the framework for these decisions. (https://www.a2gov.org/documents/ann%20arbor%20ntp%20update%202013.pdf)

What is the estimated volume of vehicles on this stretch of Barton to Pontiac Trail:

- **During the morning commute (e.g. 7-9 am)**
- **Midday during the week (9 am - 4:30 pm)**
- **During the afternoon commute (e.g. 4:30 - 6:30 pm)**
- **On the weekend (Saturdays / Sundays?**
- **How has this data been collected / estimated?**

Traffic count data are attached.

What is the volume of heavy vehicle traffic coming off of the exit ramps onto Barton Drive?

- **How has this data been collected / estimated?**
- **Are heavy vehicles allowed on these ramps?**

- **If not, what are the strategies to reduce / eliminate this traffic?**
- **What has been the police department activity in this area for the past 6 months?**

MDOT keeps data on their own infrastructure. Their data can be accessed through their website: https://www.michigan.gov/mdot/0,4616,7-151-11151_11033-22141--,00.html

What types of citations or warnings have been given?
What impact has the police presence (or lack of police presence depending on the frequency) had on motor vehicle commuters?
Based on this data, would increased, targeted traffic enforcement in this area / at this specific intersection have an impact on traffic calming and safety? Or has this been ruled out as an ineffective solution?

The project area is one of the Ann Arbor Police Department's regularly scheduled targeted enforcement areas for commercial vehicle violations. Enforcement in this area occurs on a more frequent basis than other areas of the City, and AAPD has not indicated that there are any currently planned changes for enforcement frequency on Barton Drive. AAPD notes that the heavy vehicles destined for the major construction sites on Pontiac Trail are permitted to use Barton, per Ann Arbor City Code, as it provides the shortest route to the work site and least disruption to the City.

What safety measures can be included in the intersection redesign to protect walkers waiting at the corners for their turn signal to cross?

The intersection of Barton Drive and Pontiac Trail will not be redesigned as part of this project. The intersection is part of the Lower Town Area Mobility Study, and major redesign recommendations may come out of that project.

The current project proposes maintaining the current lanes committed to vehicular travel. The traffic signal, which is adaptive to user volumes, will continue to be adaptive which allows the traffic signal to respond more quickly to pedestrian push buttons. The traffic signal will include leading pedestrian intervals, allowing pedestrians to start walking prior to vehicles receiving a green. The proposed bikes lanes will also provide protection for pedestrians at the corner. The bike lane will keep people driving cars better aligned to see pedestrians at the corner or in the crosswalk. It is staff's intention to install bump-outs on Barton Drive at Pontiac Trail if the bike lanes are not installed for the same reason.

What are the legally allowable options for traffic signaling during the intersection redesign, including but not limited to:

- **Left-hand turn/no-turn signals for both Barton and Pontiac**
- **Right-hand turn/no-turn signals for both Barton and Pontiac**
- **Count-down pedestrian crossing signal, so people know how much time they have to cross**
- **Other options?**
- **What lanes could potentially be installed on Barton and Pontiac at the intersection during the redesign?**
- **Left Turn lane?**
- **Dedicated Right Turn lane?**

- **Dedicated Straight-thru lanes?**
- **Can the shape of the intersection / lanes be changed during the redesign?**

The intersection of Barton Drive and Pontiac Trail will not be redesigned as part of this project. The intersection is part of the Lower Town Area Mobility Study, and major redesign recommendations may come out of that project.

For example, could the corners be rounded to provide for easier right hand turns (and prevent cars from driving up and over the curve)?

Increasing curb radii at intersections will only increase the turning speed of vehicles, particularly for personal vehicles. Increased turning speed would be at the detriment of pedestrian safety. The project is not proposing major changes to the intersection of Barton Drive and Pontiac Trail. Any major changes would likely result in the need to acquire additional right-of-way. The intersection is part of the Lower Town Area Mobility Study, and major redesign recommendations may come out of that project. In the meantime, it is staff's intention to install bump-outs on Barton Drive at Pontiac Trail if the bike lanes are not installed so right turning vehicles cannot try to squeeze by straight or left turning vehicles and continue to be a detriment to pedestrian safety.

What are the stats on the numbers of ~~accidents~~ crashes in the Barton Dr / Pontiac Trail intersection?

- **Of these, what are the types of ~~accidents~~ crashes that most frequently take place?**
- **How will the redesign impact these specific types of accidents?**

The five-year crash diagram is attached. The annual number of crashes for this intersection is seven with approximately one crash per year resulting in personal injury. Staff anticipate that the proposed changes will most specifically reduce the sideswipe crashes on the eastbound Barton Drive approach.

What are the risks associated with installing bike lanes?

A possible risk for installing a bike lane is that some motorists will not position themselves further towards center lane when bicyclists have a dedicated bike lane. However, this risk is outweighed by the benefits of provided a dedicated lane for people riding bikes.

- **Who is at risk?**

  The risk is minimal and typically involves a person driving a vehicle entering a bicycle lane. However, this crash type is very rare and typically does not occur in the City of Ann Arbor.

- **What are the conditions necessary to mitigate those risks when considering the installation of bike lanes?**

  If we have sufficient width, the City will provide a buffer to the bike lane. A buffered area could also provide vertical delineation elements such as those used in other area of the City.

- **Can we have raised crosswalks at Chandler and Northside?**

  No. The City does not currently have a major streets traffic-calming program.

Can there be RRFBs installed at the Chandler and Northside crosswalk?

The crosswalks will be designed according to the City's Crosswalk Design Guidelines.

Can we have a test period after the work on resurfacing, new sidewalks, new crosswalks, new corner at Chandler/Barton, and new intersection improvements has been complete, such that we can see what it is like for bicyclists before deciding whether it would be safe to install bike lanes?

Wide vehicular lanes lead to higher vehicular speeds and lower safety for people walking, biking, and driving. Installing dedicated bicycles lanes will narrow the amount of space for use by vehicles, lead to lower vehicle speeds, and will lead to increased safety for all transportation system users. Staff's professional opinion is that it will be safe to install the bike lanes and that it provide a lower stress bicycling environment.

Are there disadvantages to not installing bike lanes with this specific project (and potentially being able to add them later)?

Yes. Parking is used in a very sporadic manner on this section of Barton, which leaves a very large lane for people driving vehicles to operate in, which generally leads to higher speeds and decreased overall safety. Additionally, this section of Barton Drive is a current gap in our bicycling infrastructure.

Are there going to be bike lanes between Northside and the M-14 interchange?

The westbound bike lane will continue on a paved shoulder to the residences on Barton Drive. Eastbound travel will continue to be provided through sharing the road or using the boardwalk path for a lower stress alternative.

If yes, what are the specific benefits that the engineering dept has identified for installing bike lanes in this stretch?

Answered above.

Are cyclists to use the road or the boardwalk to get access to the parks and Whitmore Lake Rd?

Answered above.

What are the specific benefits that the engineering dept has identified for installing bike lanes along Barton between Northside and Pontiac?
Who are the benefits intended for?

As stated previously, the design changes are intended to benefit the public. Improvements in safety for people driving vehicles should be observed; people riding bicycles will have a dedicated space, separate from vehicles and pedestrians, to operate in; people walking on the sidewalks will have the additional benefit of a consistent buffer between them and people driving vehicles, which generally makes walking more comfortable; and no vehicle travel lanes will be removed.

How will the design mitigate:

- **the high traffic inflow/outflow volume to/from M-14**

Barton Drive is a Minor Arterial, which means the serves the purpose of moving people through an area. City staff are not making design decisions that will result in limiting access to the area for people walking, people riding bicycles, or people driving personal vehicles.

- **usage by heavy duty vehicles**

  Barton Drive is not a designated truck route and through trucks are currently prohibited. City staff are currently working on ways to better implement the truck prohibition.

- **narrowness of the road**

  Narrow vehicular lanes and curb radii are important design features to encourage lower speed selection by people driving vehicles and improve safety for all travelers.

- **limited visibility**

  The design process for this project will include the evaluation of sight distance.

Can a rain (or other native plants) garden be planted where the Chandler/Barton curb extension will be installed?

Rain gardens can be considered at the new grassy areas created by the reconfiguration of the intersection at Barton Drive and Chandler Road. Staff is looking into what plants shall be considered as to not create a sight distance issue at the intersection or nearby driveways.

City of Ann Arbor
301 E Huron St.
Ann Arbor, MI. 48107
Barton Dr. between M14 off Ramp and Pontiac Tr.
Classification Count

Site Code: 143091000
Station ID:

Latitude: 0' 0.0000 South

SB, NB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
04/23/19	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
01:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
02:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
03:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
04:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
05:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
06:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
07:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
08:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
09:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
10:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
11:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
12 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00	5	302	47	8	15	4	1	0	0	0	0	0	1	12	395
14:00	8	502	84	6	11	3	1	4	1	0	0	0	1	36	657
15:00	13	545	58	7	15	2	1	2	0	0	0	0	1	44	688
16:00	12	680	66	4	11	1	0	1	0	0	0	0	0	27	802
17:00	11	470	37	1	6	2	0	0	0	0	0	0	0	10	537
18:00	4	348	28	0	5	0	0	0	0	0	0	0	0	5	390
19:00	4	277	20	0	5	0	0	0	0	0	0	0	0	6	312
20:00	1	220	25	0	2	0	0	0	0	0	0	0	0	1	249
21:00	0	103	8	0	0	0	0	0	0	0	0	0	0	0	111
22:00	0	81	8	0	1	0	0	0	0	0	0	0	0	1	91
23:00	0	38	2	0	0	0	0	0	0	0	0	0	0	0	40
Total	58	3566	383	26	71	12	3	7	1	0	0	0	3	142	4272
Percent	1.4%	83.5%	9.0%	0.6%	1.7%	0.3%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.1%	3.3%	
AM Peak															
Vol.															
PM Peak	15:00	16:00	14:00	13:00	13:00	13:00	13:00	14:00	14:00				13:00	15:00	16:00
Vol.	13	680	84	8	15	4	1	4	1				1	44	802

City of Ann Arbor
301 E Huron St.
Ann Arbor, MI. 48107
Barton Dr. between M14 off Ramp and Pontiac Tr.
Classification Count

Site Code: 143091000
Station ID:

Latitude: 0' 0.0000 South

SB, NB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
04/24/19	0	19	0	0	1	0	0	0	0	0	0	0	0	0	20
01:00	0	7	1	0	0	0	0	0	0	0	0	0	0	0	8
02:00	0	10	1	0	1	0	0	0	0	0	0	0	0	0	12
03:00	0	38	3	0	0	0	0	0	0	0	0	0	0	0	41
04:00	0	121	33	0	3	0	0	0	0	0	0	0	0	1	158
05:00	3	418	70	0	19	0	1	0	0	0	0	0	0	4	515
06:00	17	686	73	8	11	6	1	2	0	0	0	0	0	33	837
07:00	20	596	61	3	12	9	1	3	0	0	0	0	1	35	741
08:00	5	414	59	5	18	2	3	1	3	0	0	0	2	4	516
09:00	2	322	53	4	13	4	1	2	0	0	0	0	0	7	408
10:00	9	357	55	0	12	5	2	4	0	0	0	0	1	5	450
11:00	4	395	56	3	16	2	0	1	0	0	0	0	3	10	490
12 PM	6	402	53	7	21	1	2	3	0	1	0	0	2	7	505
13:00	8	478	83	7	16	0	0	5	1	1	0	0	2	9	610
14:00	13	495	68	13	17	2	0	2	0	1	0	0	3	37	651
15:00	12	574	60	4	19	2	1	3	1	0	0	1	1	39	717
16:00	15	492	38	3	10	1	0	0	0	0	0	0	0	49	608
17:00	12	510	54	0	5	1	0	0	0	0	0	0	0	13	595
18:00	8	434	26	0	7	2	0	1	1	0	0	0	0	4	483
19:00	4	259	27	0	7	0	0	0	0	0	0	0	0	3	300
20:00	1	215	9	0	4	0	0	0	0	0	0	0	0	1	230
21:00	2	117	11	0	3	0	0	0	0	0	0	0	0	1	134
22:00	0	61	9	0	2	0	0	0	0	0	0	0	0	1	73
23:00	0	44	5	0	1	0	0	0	0	0	0	0	0	0	50
Total	141	7464	908	57	218	37	12	27	6	3	0	1	15	263	9152
Percent	1.5%	81.6%	9.9%	0.6%	2.4%	0.4%	0.1%	0.3%	0.1%	0.0%	0.0%	0.0%	0.2%	2.9%	
AM Peak	07:00	06:00	06:00	06:00	05:00	07:00	08:00	10:00	08:00				11:00	07:00	06:00
Vol.	20	686	73	8	19	9	3	4	3				3	35	837
PM Peak	16:00	15:00	13:00	14:00	12:00	14:00	12:00	13:00	13:00	12:00		15:00	14:00	16:00	15:00
Vol.	15	574	83	13	21	2	2	5	1	1		1	3	49	717

City of Ann Arbor
301 E Huron St.
Ann Arbor, MI. 48107
Barton Dr. between M14 off Ramp and Pontiac Tr.
Classification Count

Site Code: 143091000
Station ID:

Latitude: 0' 0.0000 South

SB, NB

Start Time	Bikes	Cars & Trailer	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Not Classe	Total
04/25/19	0	23	0	0	2	0	0	0	0	0	0	0	0	0	25
01:00	0	10	2	0	0	0	0	0	0	0	0	0	0	0	12
02:00	0	19	2	0	1	0	0	0	0	0	0	0	0	0	22
03:00	0	23	8	0	0	0	0	0	0	0	0	0	0	0	31
04:00	0	136	24	0	0	0	0	0	0	0	0	0	0	0	160
05:00	4	393	72	0	15	1	1	0	0	0	0	0	0	4	490
06:00	11	675	71	9	6	2	2	0	0	0	0	0	1	24	801
07:00	16	606	64	2	14	3	0	3	1	0	0	0	1	33	743
08:00	5	396	65	5	18	1	0	2	0	0	0	0	2	7	501
09:00	4	323	80	1	12	0	0	1	0	0	0	0	2	5	428
10:00	3	169	27	4	7	1	1	0	0	0	0	0	0	6	218
11:00	6	407	74	5	23	0	0	3	0	0	0	0	5	7	530
12 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
14:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
15:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
16:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
17:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
18:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
19:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
20:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
21:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
22:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
23:00	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
Total	49	3180	489	26	98	8	4	9	1	0	0	0	11	86	3961
Percent	1.2%	80.3%	12.3%	0.7%	2.5%	0.2%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.3%	2.2%	
AM Peak	07:00	06:00	09:00	06:00	11:00	07:00	06:00	07:00	07:00				11:00	07:00	06:00
Vol.	16	675	80	9	23	3	2	3	1				5	33	801
PM Peak Vol.															
Grand Total	248	14210	1780	109	387	57	19	43	8	3	0	1	29	491	17385
Percent	1.4%	81.7%	10.2%	0.6%	2.2%	0.3%	0.1%	0.2%	0.0%	0.0%	0.0%	0.0%	0.2%	2.8%	

Collision Diagram Report

Ann Arbor (CityVillage)

Report Module: Safety Management Analysis

Today's Date: Monday, November 18, 2019

Dates: 1/1/2014 to 12/31/2018

Animal Crashes: Excluded

Intersection: Barton Dr & Pontiac Trl

Radius: 250 feet

Physical Road(s) comprising intersection:

Symbol Key:

Angle Driveway	Bicycle	Hit Train	Overturn	Rear End Right Turn
Angle Straight	Fixed Object	Misc. Multiple Vehicle	Parking	Rear End Straight
Angle Turn	Head-on	Misc. Single Vehicle	Pedestrian	Side-Swipe Opposite
Animal	Head-on Left Turn Driveway	Other Driveway	Rear End Driveway	Side-Swipe Same
Backing	Head-on Left Turn No Driveway	Other Object	Rear End Left Turn	

Collision Diagram Report

Barton Dr & Pontiac Trl

Barton Dr & Pontiac Trl

PDO: 28
Injury: 6
Fatal: 0
Total: 34

N