



Cheltenham Drive - Wisconsin Avenue to Pearl Street, Bethesda

Bikeway Feasibility Study

Existing Conditions + Conceptual Design Alternatives

September 30, 2021

Meeting Agenda

7:00 PM – Welcome/Zoom Overview

7:10 PM – Project Team

7:15 PM – Project Presentation

- Project Background
- Existing Conditions Analysis
- Design Alternatives
- Next Steps

8:00 PM – Questions & Discussion

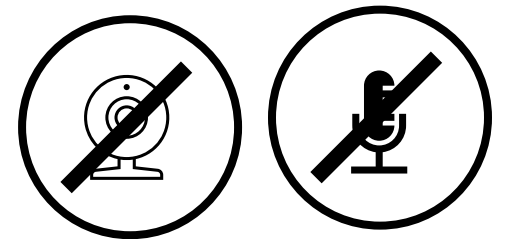
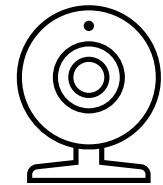
8:50 PM – Adjourn



Welcome to the Cheltenham Drive Bikeway Feasibility Study

Virtual Public Meeting

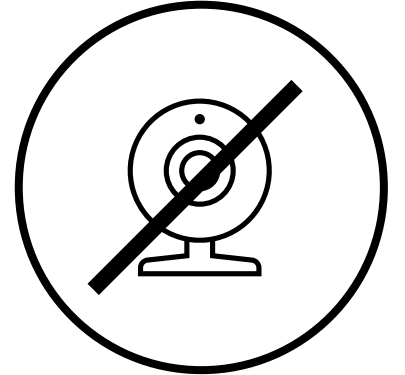
- Please note that this meeting's audio/video is being recorded and will be posted on the MCDOT website.
- If you do not wish to have your voice or likeness recorded, please turn your video camera off, and refrain from asking questions using the audio option. Instead, you can send your questions via the chat.



Zoom Tutorial

Video

- Your video camera is off by default. This is done to reduce the bandwidth of the meeting and ensure there are limited disruptions.
- We request that you please keep your camera off for the duration of the meeting.



Muting

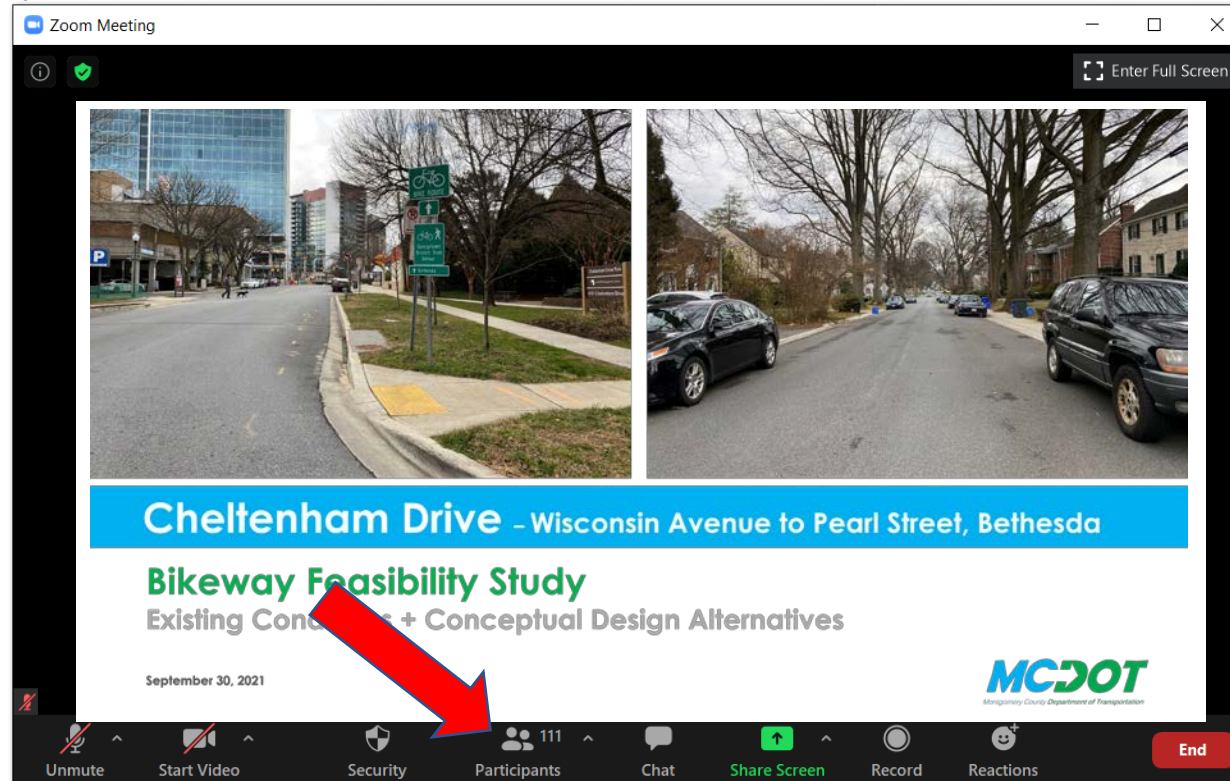
- Everyone is on mute. You cannot unmute yourself. We will unmute you during the Q&A Session.
- To request to speak, you'll need to use the 'Raise Hand' feature (instructions to follow). Once we unmute you, you may still need to click a pop-up menu to unmute yourself.
- If you have called in by telephone, you can unmute yourself by dialing *6 once we unmute you.



Zoom Tutorial

Questions

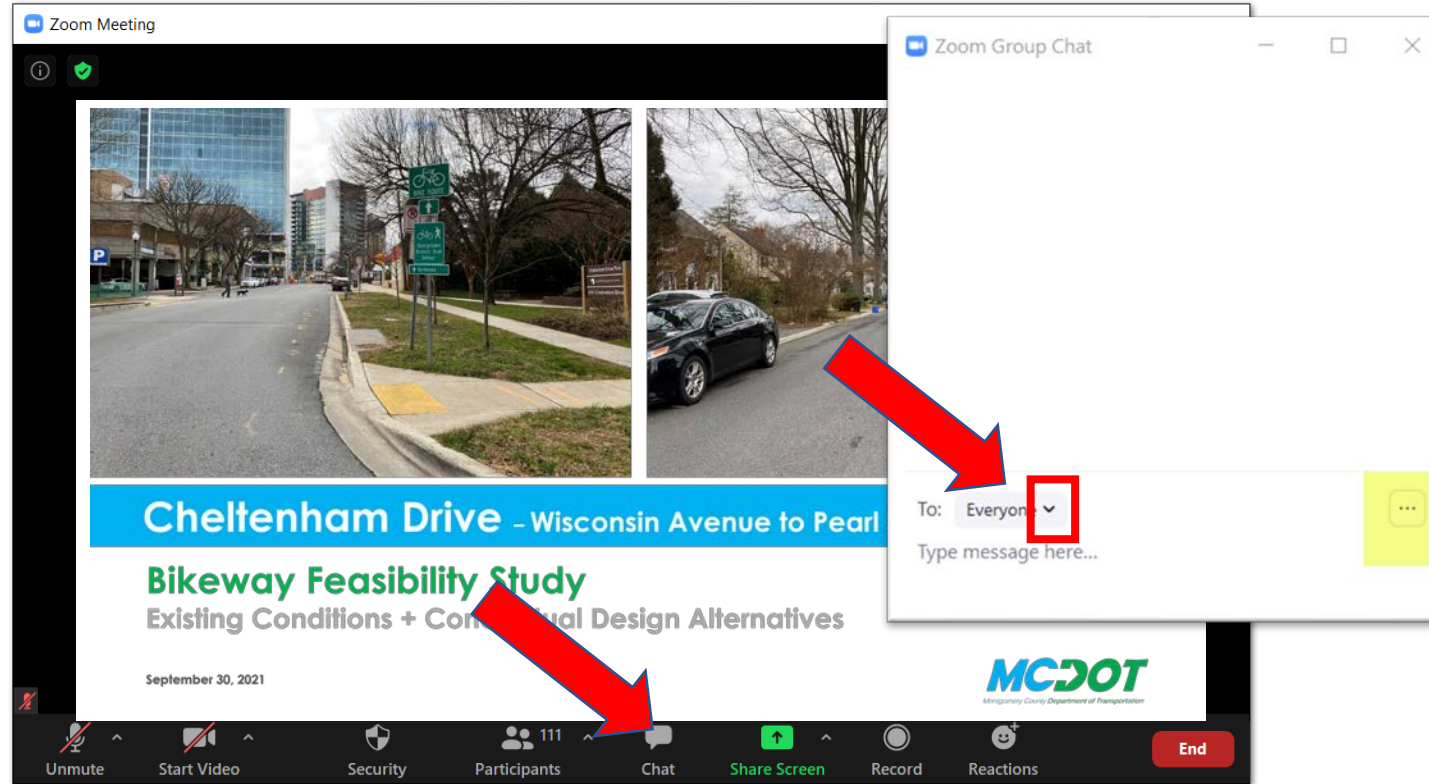
- Speaking / Raise Your Hand – If you'd like to speak to ask a question or make a comment, please raise your hand.
- Click 'participants' in the bottom menu.
- A new window will appear. Click the blue "raise hand" button.
- If you've dialed in by phone, dial *9



Zoom Tutorial

Questions

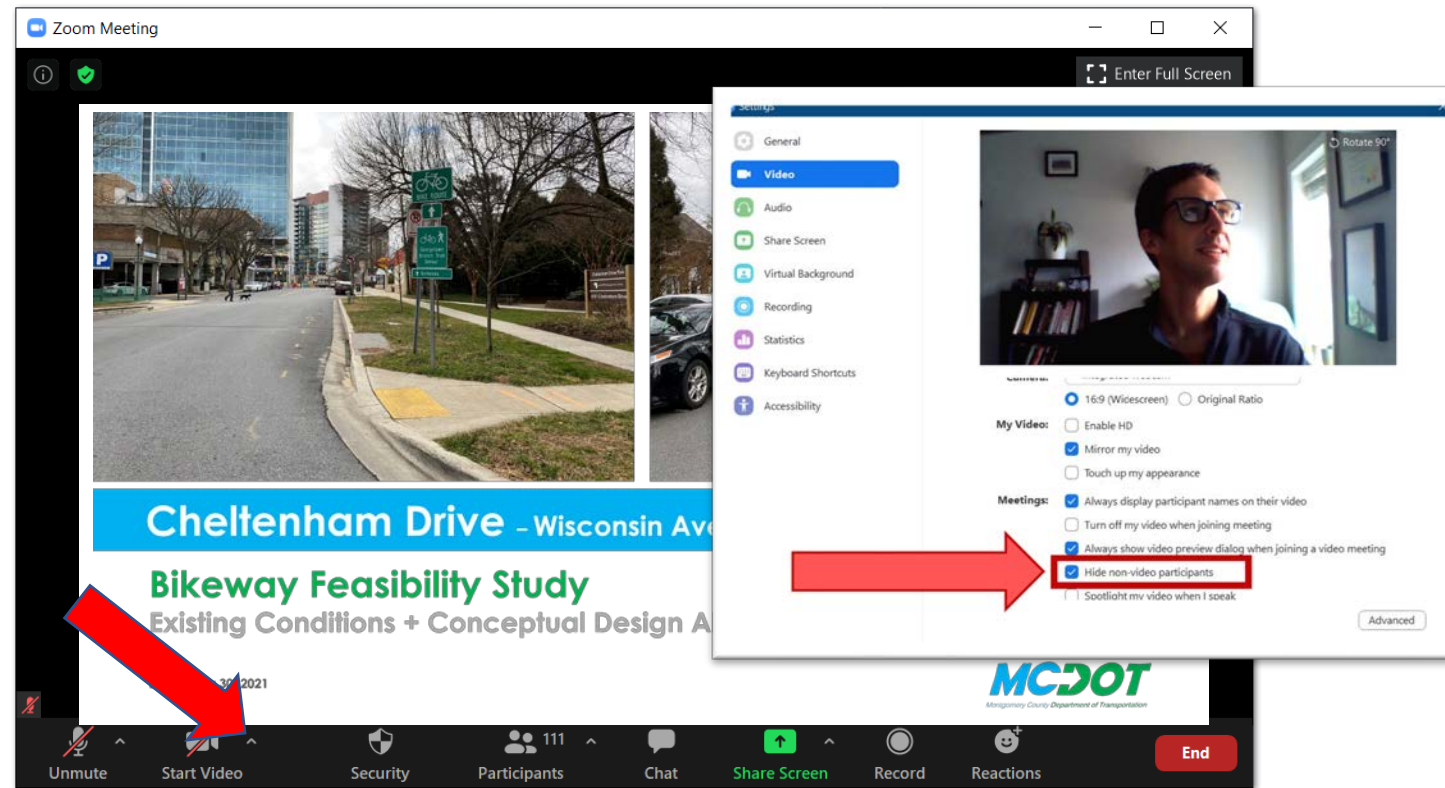
- Ask a Question (Text) – If you have a question during the presentation, use the chat to sent it.
- Click “chat” in the bottom menu.
- A new window will appear. In the “to” field, change the drop down to “Patricia Shepherd”.
- Type your question and send it.



Zoom Tutorial

View

- View – To change your view so that you only see people with cameras on, complete the following steps.
- Click the up arrow next to 'start video'.
- Select 'Video Settings'.
- Make sure 'Hide non-video participants' is checked. You may have to scroll down slightly.



Project Team



Patricia Shepherd – Project Manager

Corey Pitts – Planning Section Manager



Aditya Inamdar – Consultant Team Project Manager

Caitlin Mildner – Planner

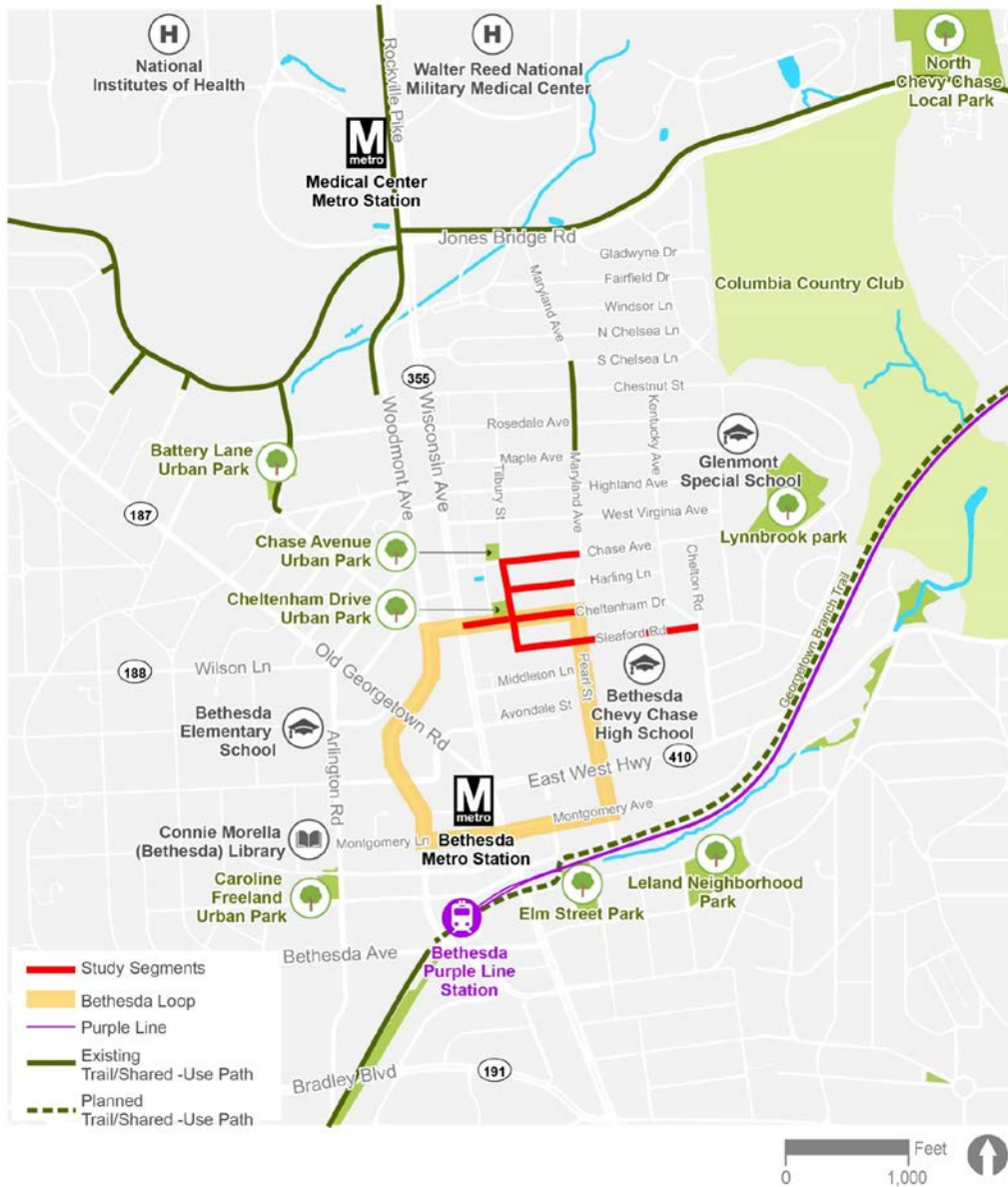
Mateo Van Thienen - Project Analyst



Project Introduction



Study Area Context



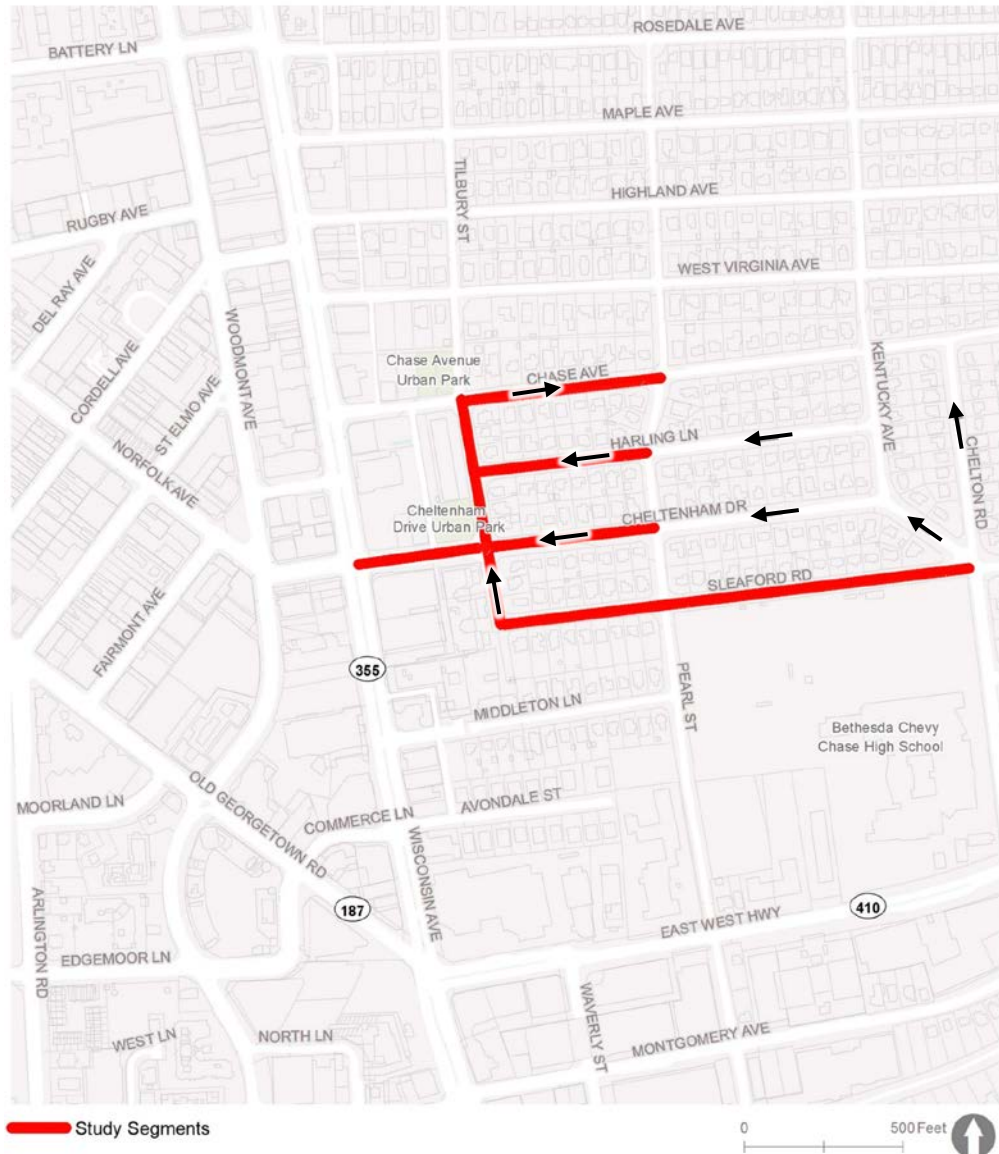
Project Goals

- Identify route and bikeway types to complete the Bethesda Loop between Wisconsin Avenue & Pearl Street
- Review previous plans :
 - Bethesda Downtown Plan (2017)
 - Montgomery County Bicycle Master Plan (2018)
- Engage major stakeholders and the community members to identify issues, opportunities, and solicit feedback on alternatives

Bethesda Streetscape Standards (2020)

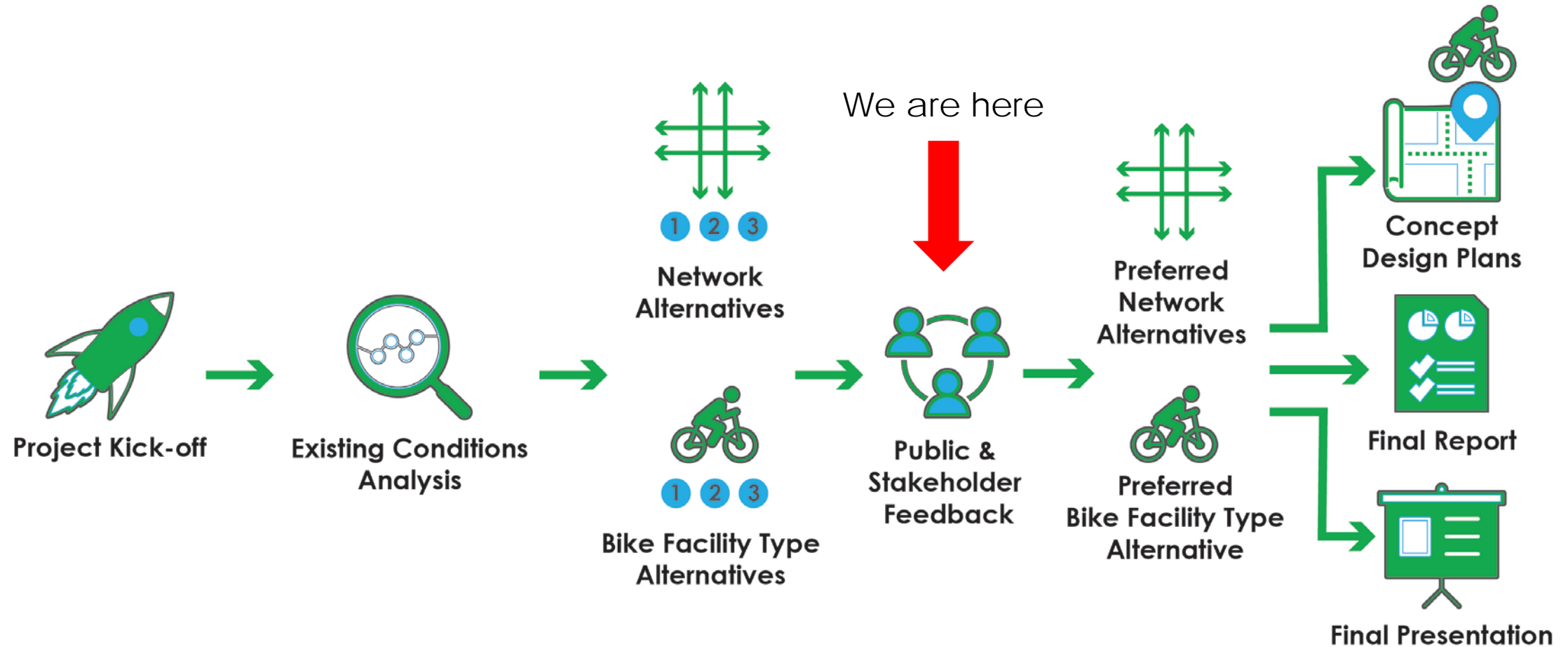
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Study Segments



- Cheltenham Drive - Wisconsin Avenue (MD 355) to Pearl Street
 - Two-way between Wisconsin Avenue (MD 355) to Tilbury Street
 - One-way (West-bound) east of Tilbury Street
- Tilbury Street - Sleaford Road to Chase Avenue
 - One-way (North-bound) between Sleaford Road to Cheltenham Drive
 - Two-way north of Cheltenham Drive
- Chase Avenue - Tilbury Street to Pearl Street
 - One-way (East-bound) between Tilbury Street to Pearl Street
- Harling Lane - Tilbury Street to Pearl Street
 - One-way (East-bound) east of Tilbury Street
- Sleaford Road- Tilbury Street to Pearl Street
 - Two-way

Planning Process



Project Timeline

	2020		2021											
Task	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Project Initiation														
Existing Conditions Analysis														
Alternatives Development & Evaluation														
Stakeholder Engagement														
Public Meeting														
Final Report & Concept-Level Design Plans														

We are here





Existing Conditions Analysis

Existing Land Use



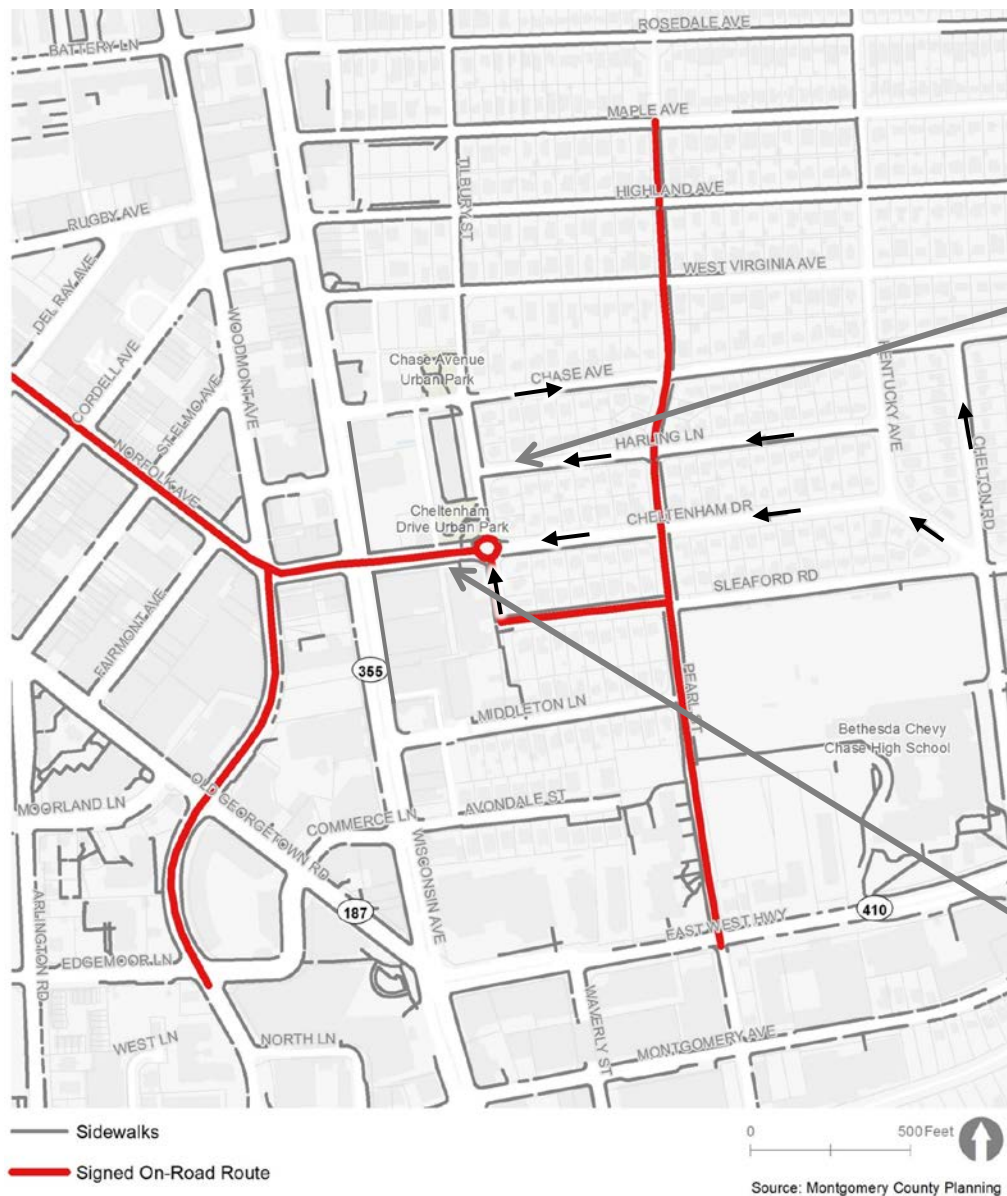
- Commercial & retail uses along and west of Wisconsin Avenue



- Single-family residential neighborhoods east of Tilbury Street



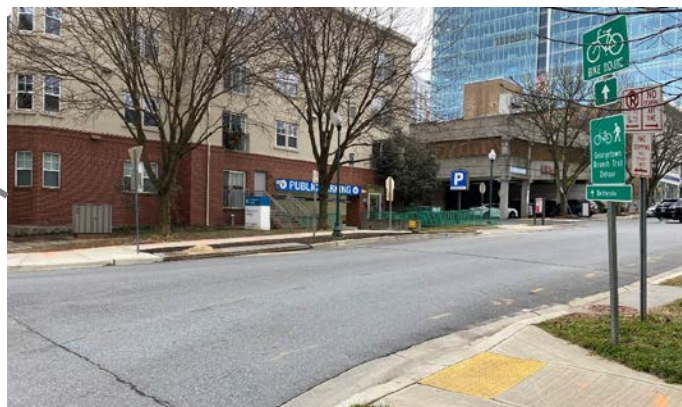
Existing Pedestrian & Bicycle Facilities



- Most residential area study segments have sidewalk on one side



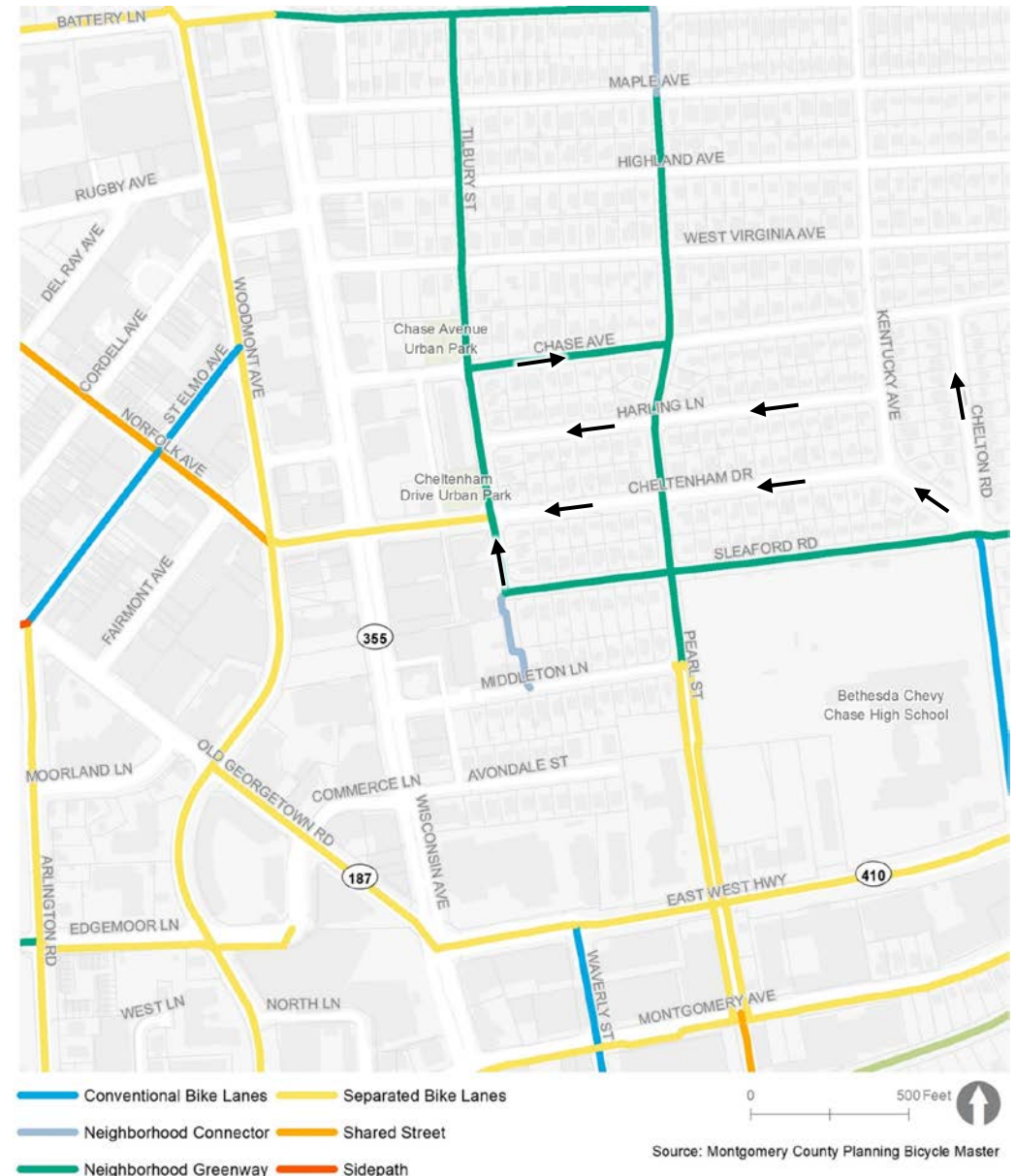
- Cheltenham Drive, Tilbury Street, Sleaford Road, and Pearl Street are assigned shared road bike routes in the study area



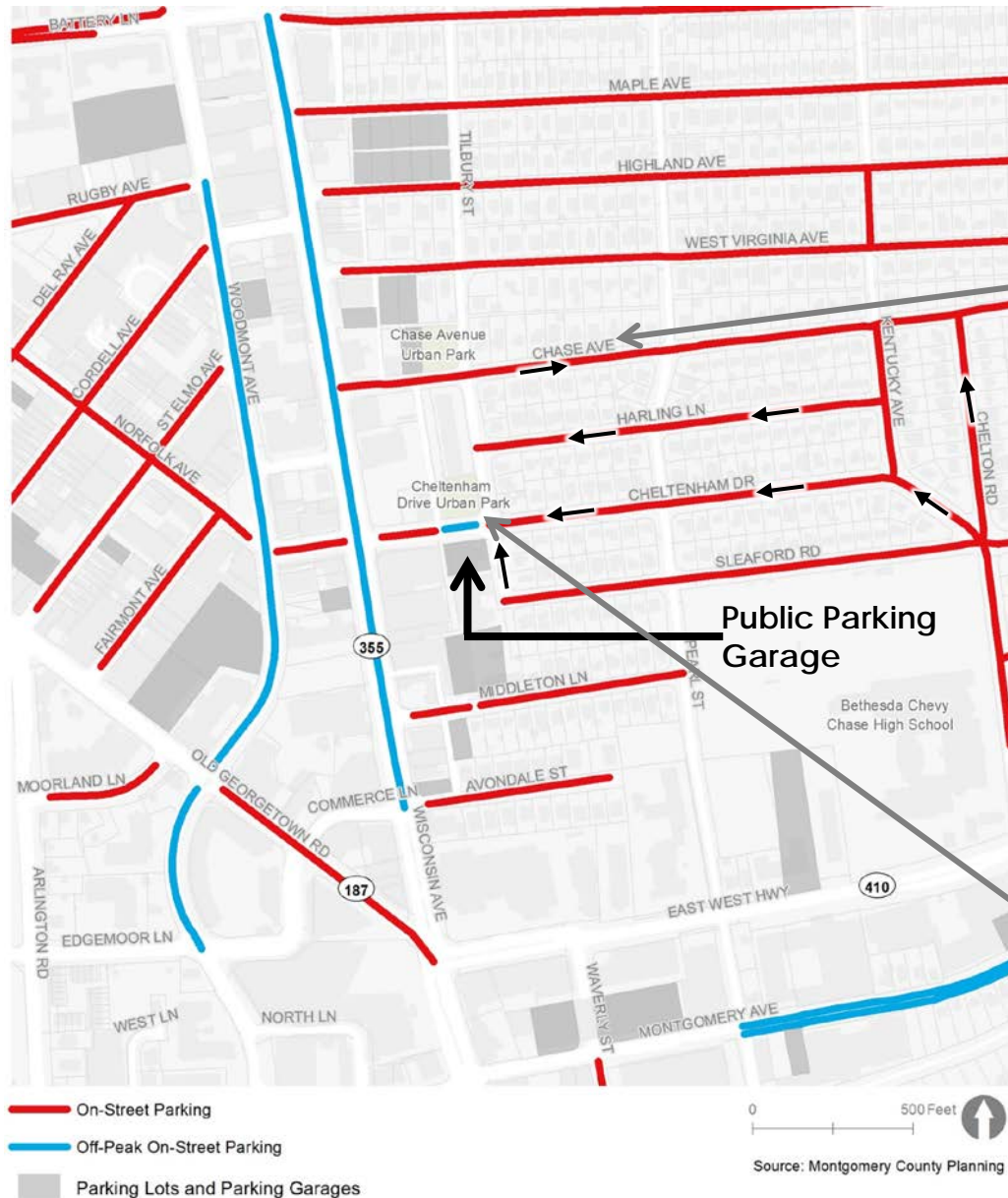
Bicycle Level of Traffic Stress



Recommended Bicycle Facilities



Parking



- Most residential area study segments have on-street parking



- Cheltenham public parking garage is located at the intersection of Cheltenham Drive and Tilbury Street



2017 Bethesda Parking Study

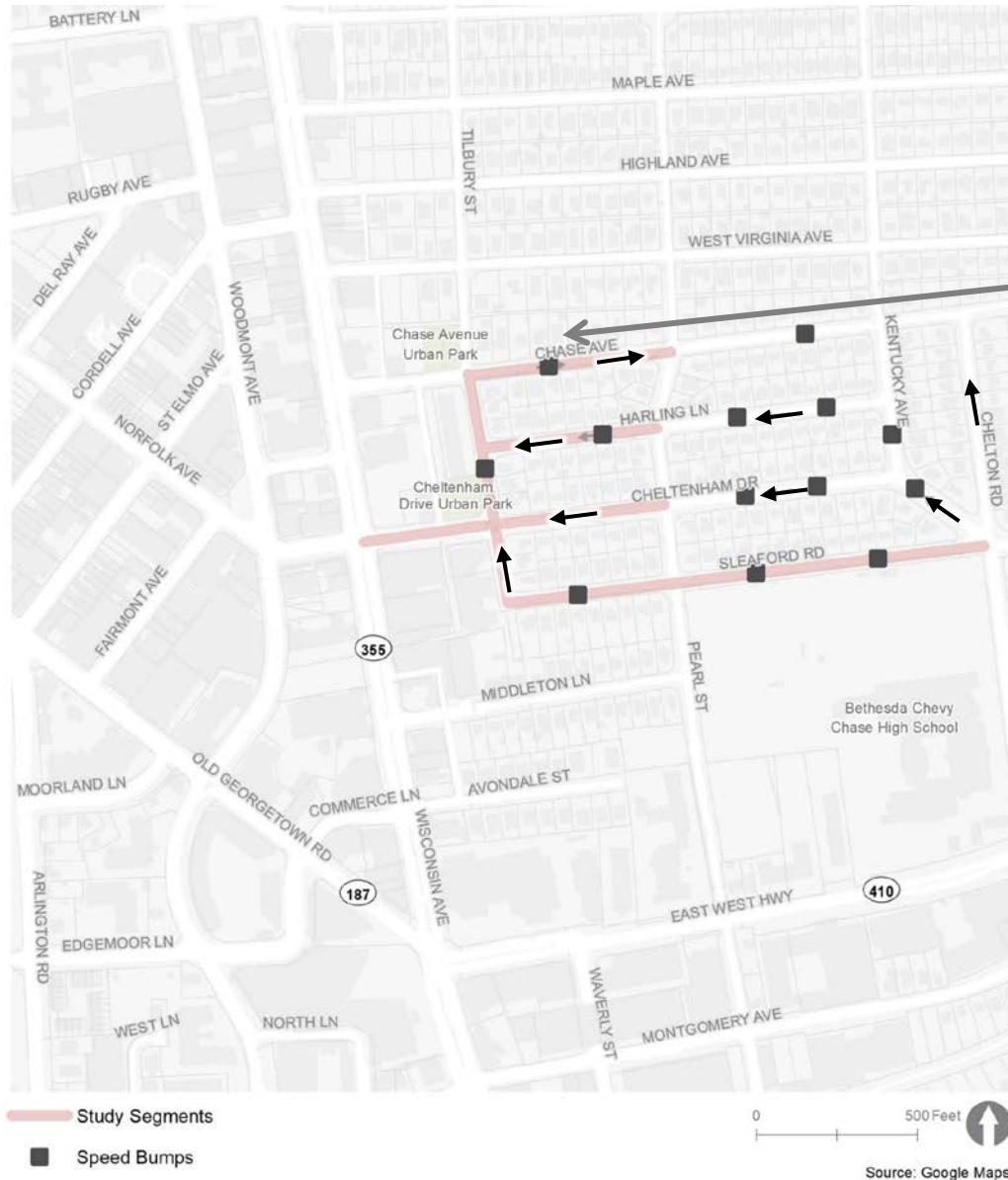
Parking Occupancy Data							
Southside of Cheltenham Dr (Acura):							
Inventory	Restriction	10:00 AM	12:00 PM	2:00 PM	4:00 PM	6:00 PM	8:00 PM
4	2 Hr	2	3	2	0	1	4
Northside of Cheltenham Dr (Midas):							
Inventory	Restriction	10:00 AM	12:00 PM	2:00 PM	4:00 PM	6:00 PM	8:00 PM
2	1 Hr	0	0	0	0	1	2
Eastside of Wisconsin Ave - No Stopping 6:30-9:30AM & 3:30-6:30PM:							
Inventory	Restriction	10:00 AM	12:00 PM	2:00 PM	4:00 PM	6:00 PM	8:00 PM
4	2 Hr	2	4	0	X	X	4
Cheltenham Public Garage							
Inventory	Restriction	10:00 AM	12:00 PM	2:00 PM	4:00 PM	6:00 PM	8:00 PM
345	N/A	118	130	130	130	93	90

- Data collected on March 23 and April 5, 2017
- Numbers represent average of two days



Traffic Calming

- Most residential area study segments have traffic calming treatments such as speed humps and traffic circles



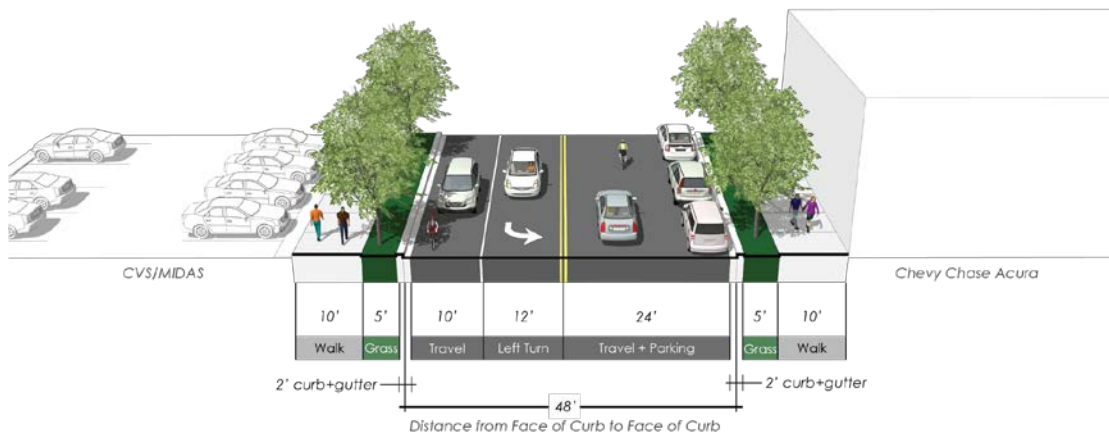
Cheltenham Drive – Wisconsin Avenue to Alley



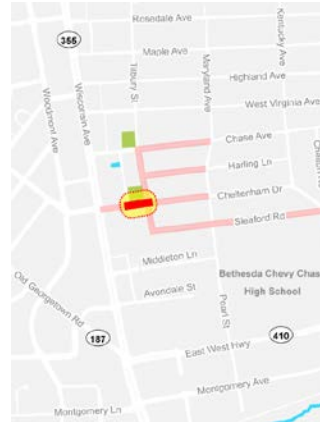
Key Map



Cheltenham Drive (Wisconsin Avenue to Alley) - Existing (Looking East)



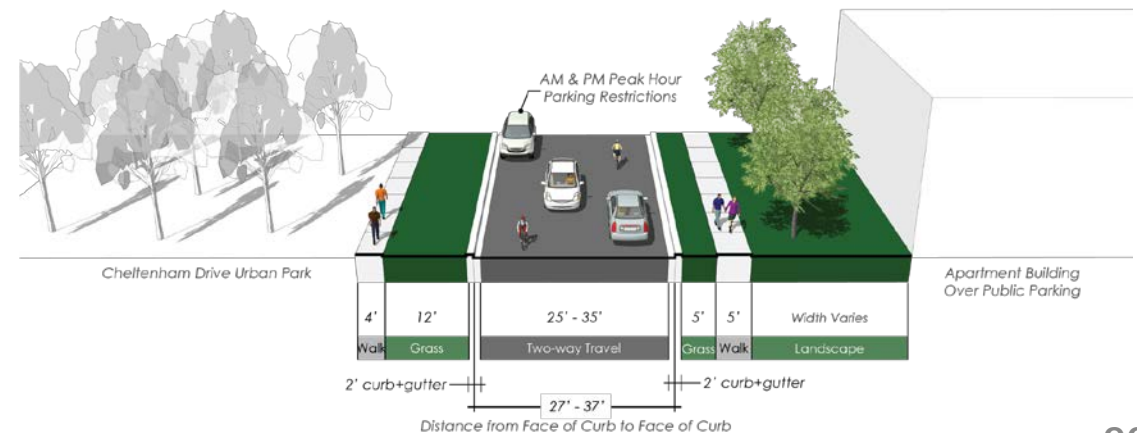
Cheltenham Drive – Alley to Tilbury Street



Key Map



Cheltenham Drive (Alley to Tilbury Street) - Existing (Looking East)



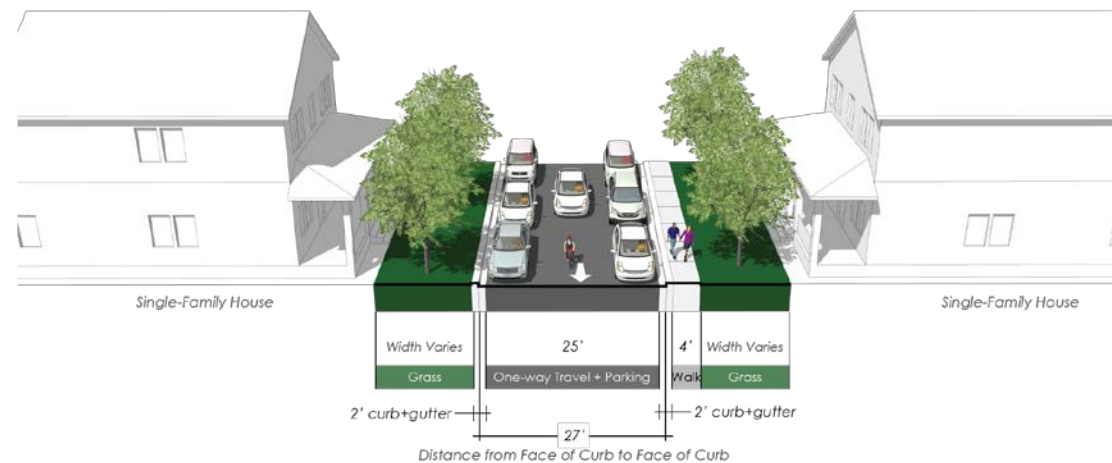
Cheltenham Drive – Tilbury Street to Pearl Street



Key Map



Cheltenham Drive (Tilbury Street to Pearl Street) - Existing (Looking East)



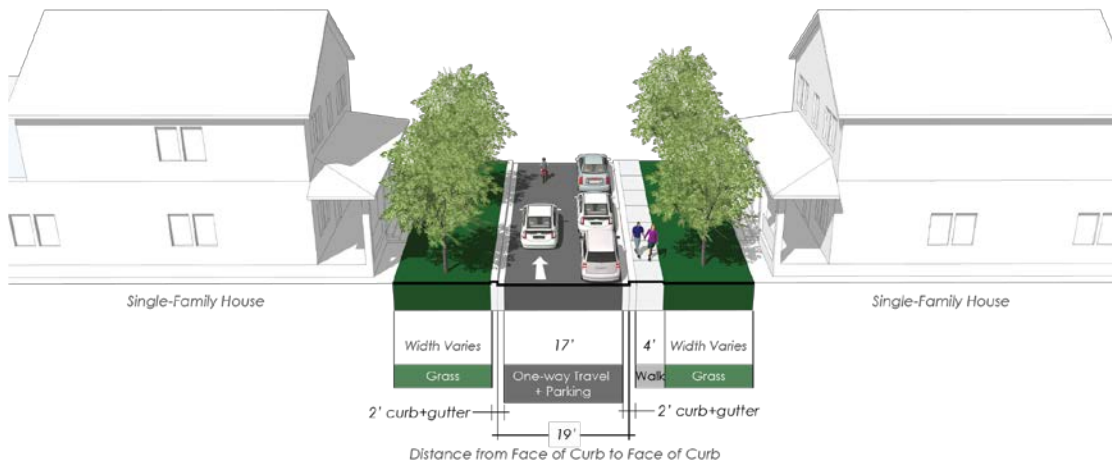
Chase Avenue – Tilbury Street to Pearl Street



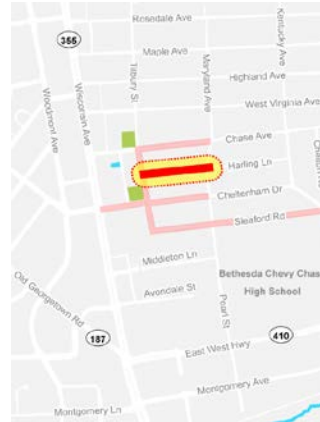
Key Map



Chase Avenue (Tilbury Street to Pearl Street) - Existing (Looking East)



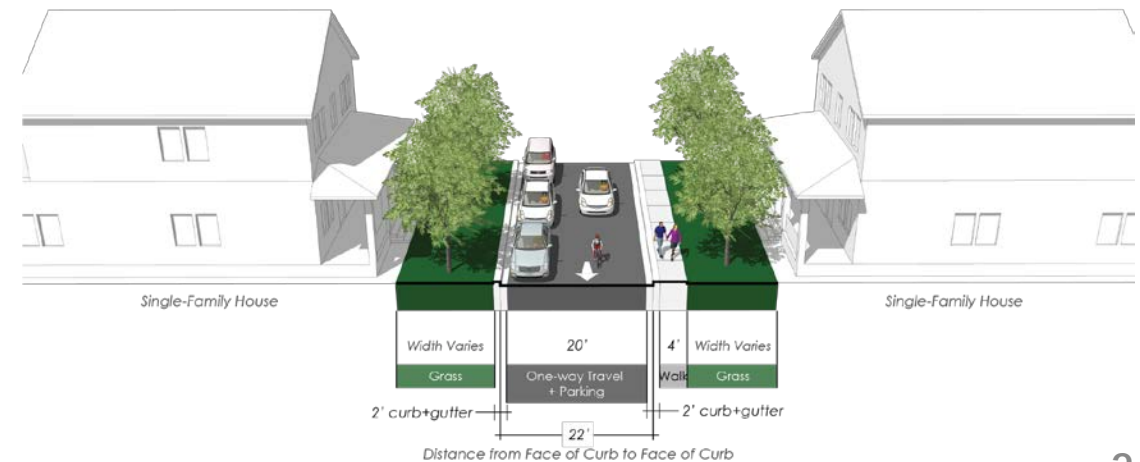
Harling Lane – Tilbury Street to Pearl Street



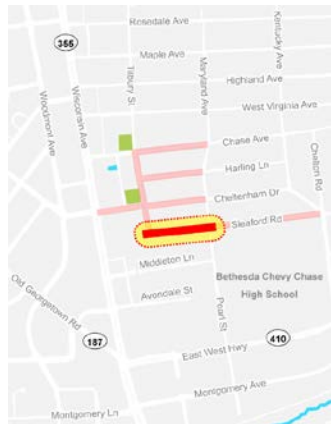
Key Map



Harling Lane (Tilbury Street to Pearl Street) - Existing (Looking East)



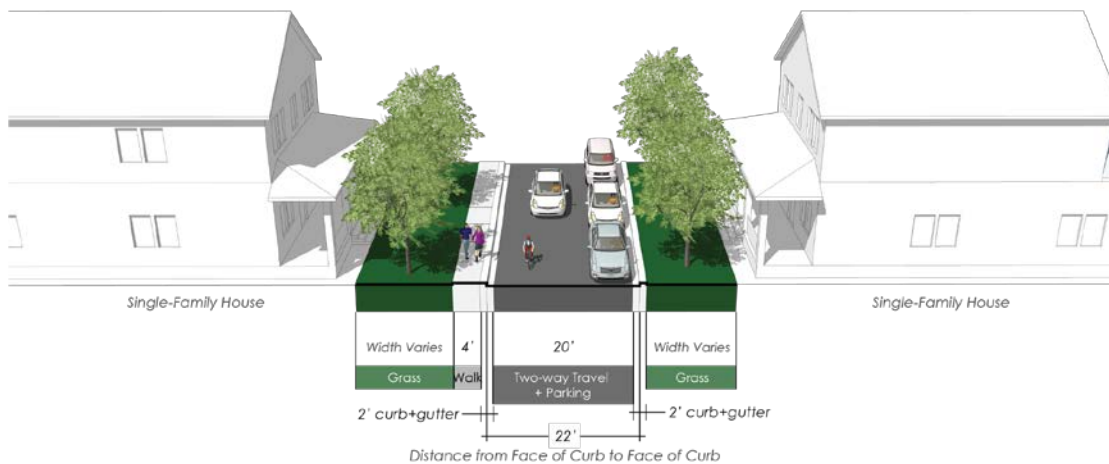
Sleaford Road – Tilbury Street to Pearl Street



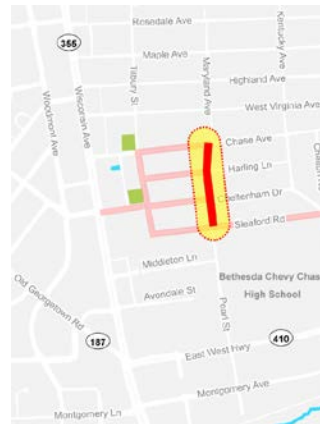
Key Map



Sleaford Road (Tilbury Street to Pearl Street) - Existing (Looking East)



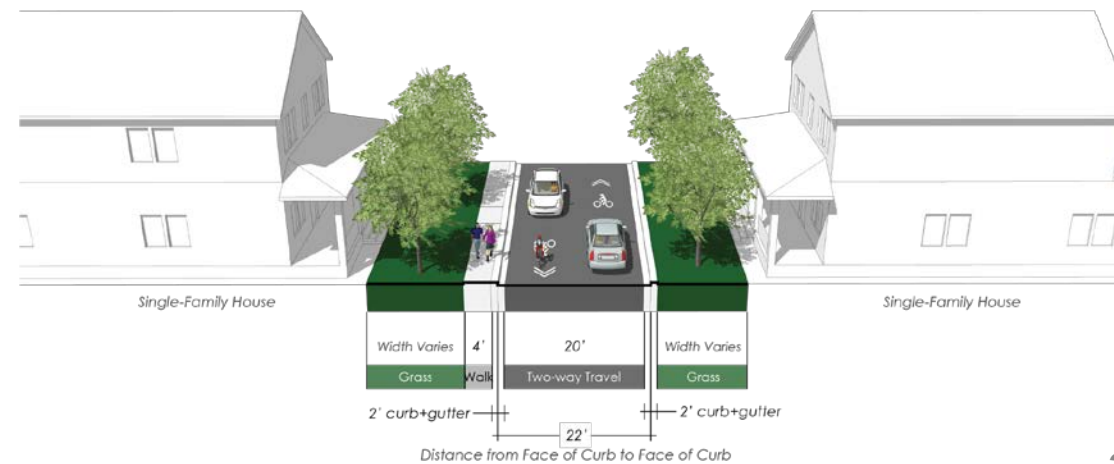
Pearl Street – Sleaford Road to Chase Street



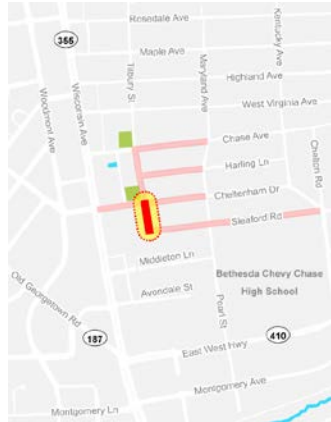
Key Map



Pearl Street (Sleaford Road to Chase Avenue) - Existing (Looking North)



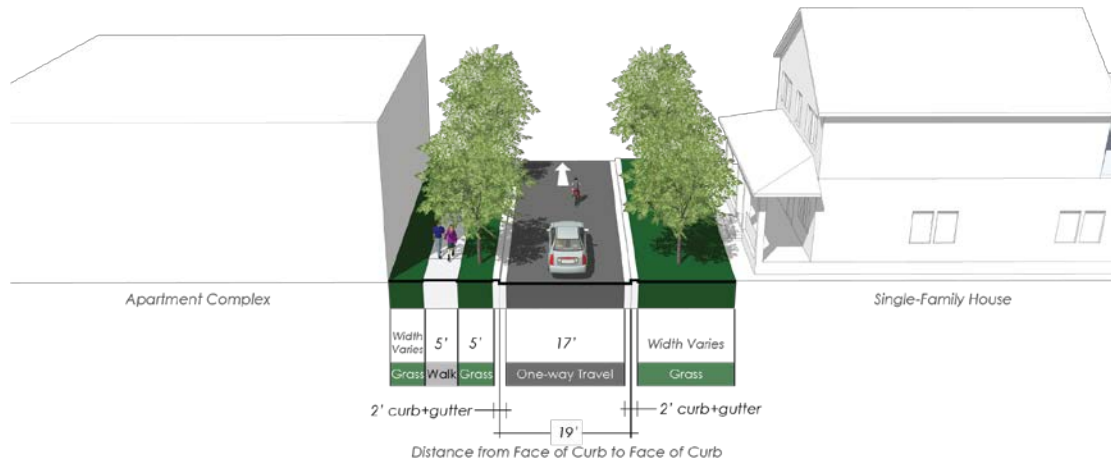
Tilbury Street – Sleaford Road to Cheltenham Drive



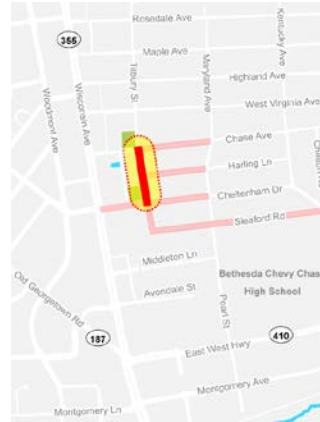
Key Map



Tilbury Street (Sleaford Road to Cheltenham Drive) - Existing (Looking North)



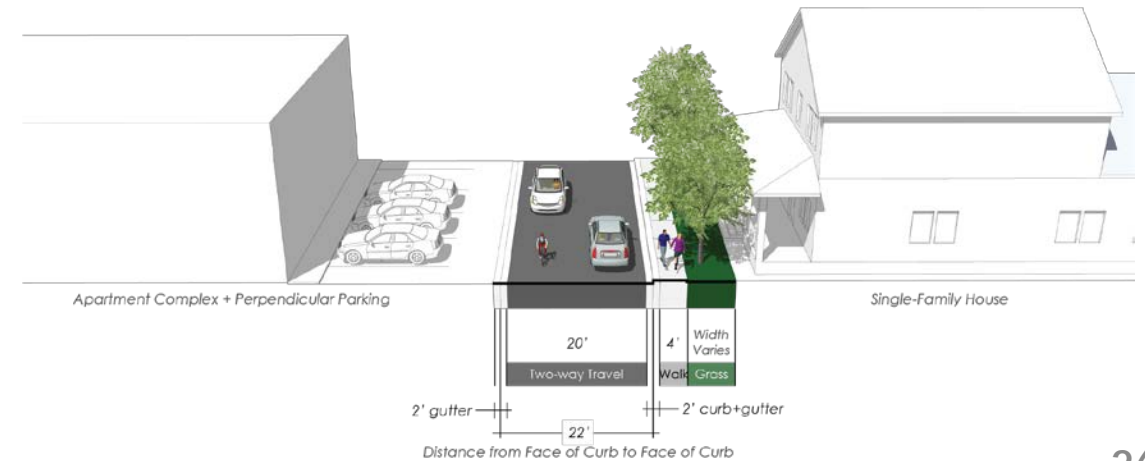
Tilbury Street – Cheltenham Drive to Chase Avenue



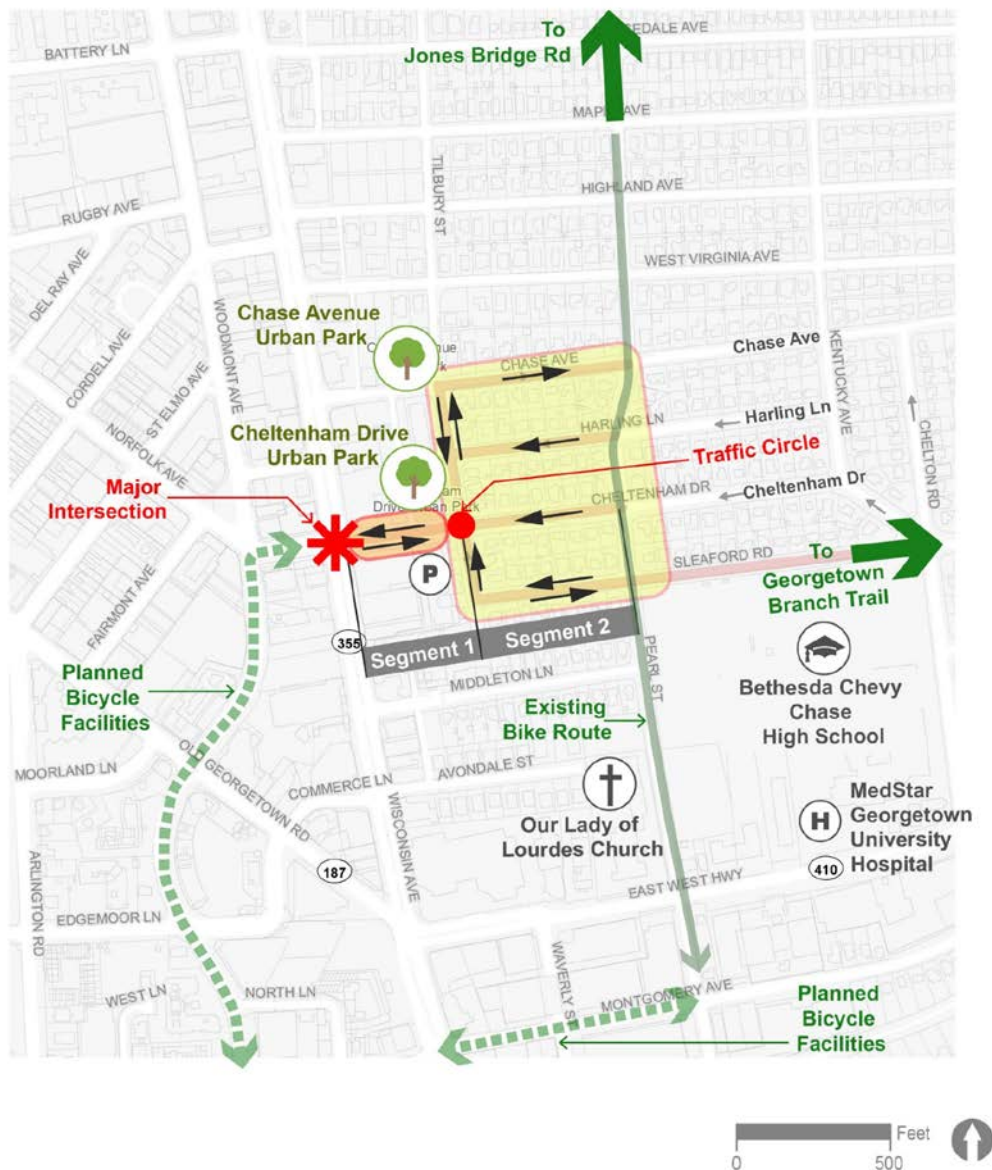
Key Map



Tilbury Street (Cheltenham Drive to Chase Avenue) - Existing (Looking North)



Issues & Opportunities

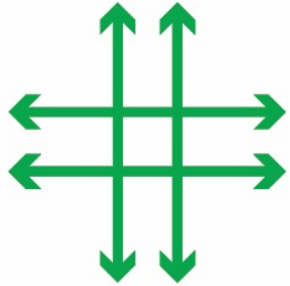


- Cheltenham Drive - two distinct land use context zones
- Traffic circle at Cheltenham Drive and Tilbury Street marks the change in the land use and transportation context
- Many study segments are one-way narrow residential streets with on-street parking on one side
- Cheltenham Drive and Norfolk Avenue - similar cross-section
- Many wide commercial driveways on Cheltenham Drive between Wisconsin Avenue and the alley
- Many destinations in and around the study area
- Multiple off-street parking lots and garages within walking distance of the study area
- Major signalized intersection at Wisconsin Avenue and Cheltenham Drive



Design Alternatives

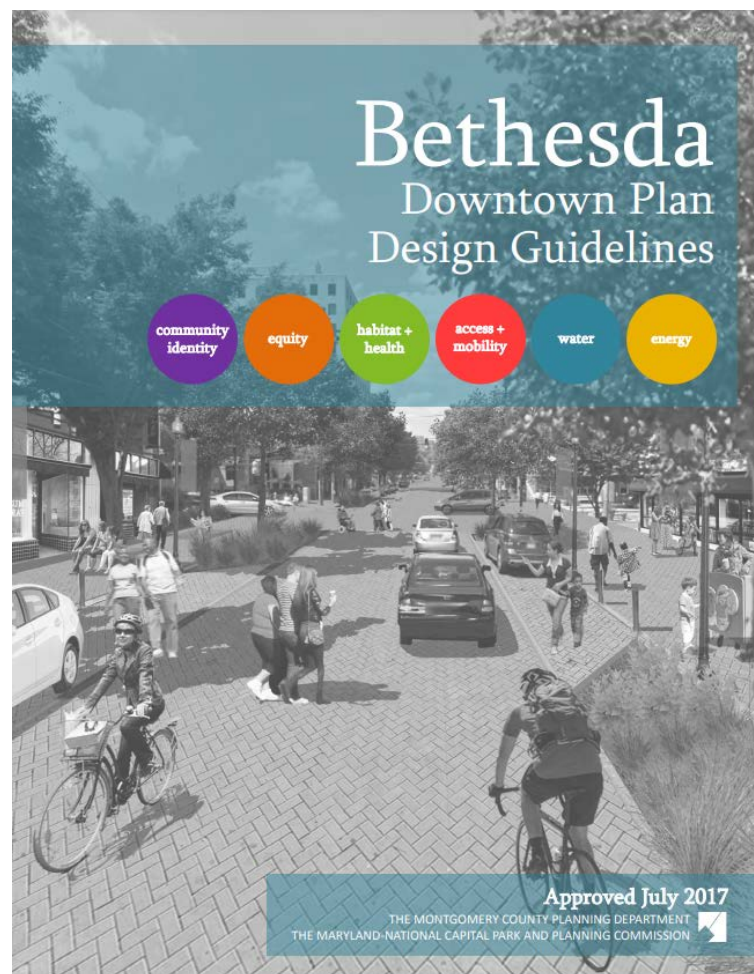




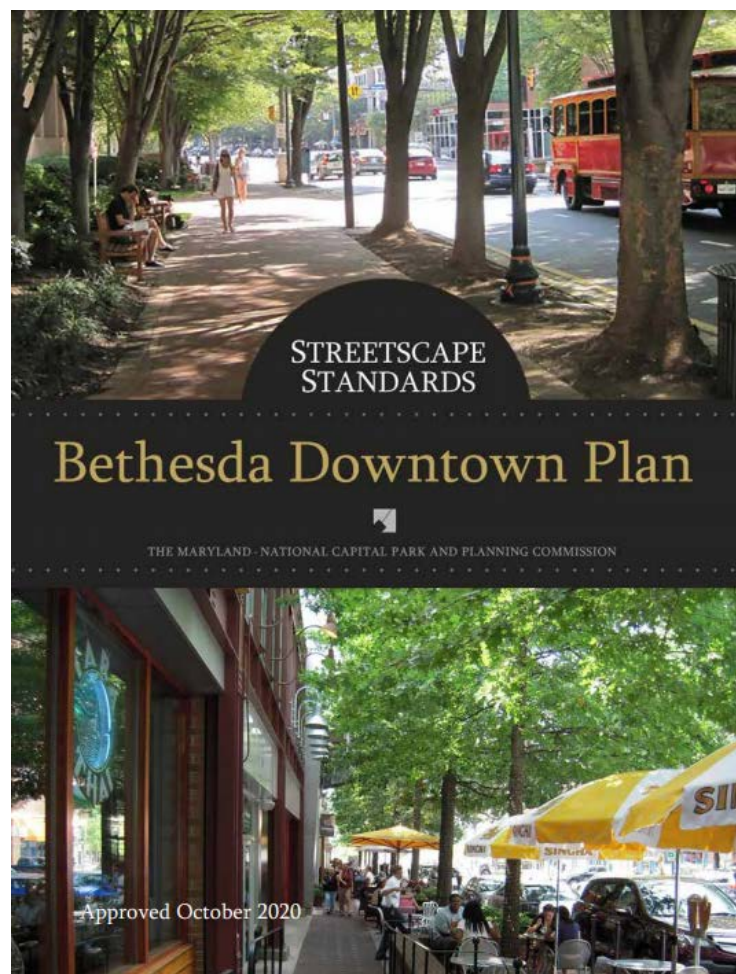
Network Route Alternatives to connect Woodmont Avenue to Pearl Street



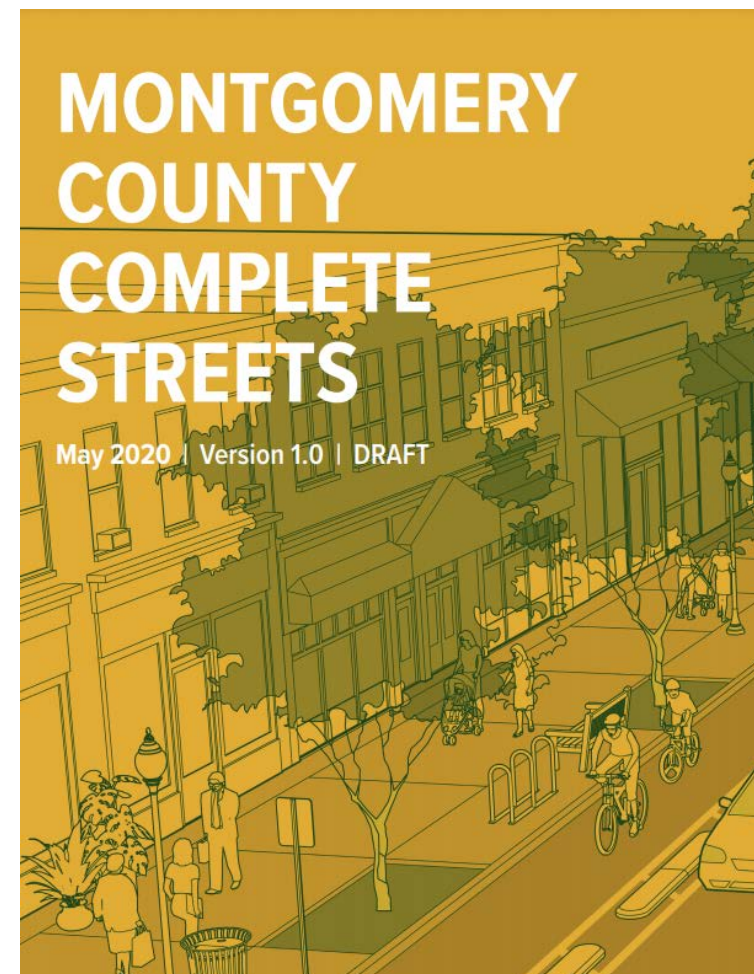
Bikeway facility type alternatives for Cheltenham Drive between Wisconsin Avenue to Tilbury Street



Bethesda Downtown Plan
Design Guidelines (2017)



Bethesda Downtown Plan
Streetscape Standards (2020)



Montgomery County
Complete Streets (Draft - 2020)

Network Alignment Alternatives

Alternative A:

Cheltenham Drive + Tilbury Street +
Sleaford Road



Contra-flow bike lane on Tilbury Street

Alternative B:

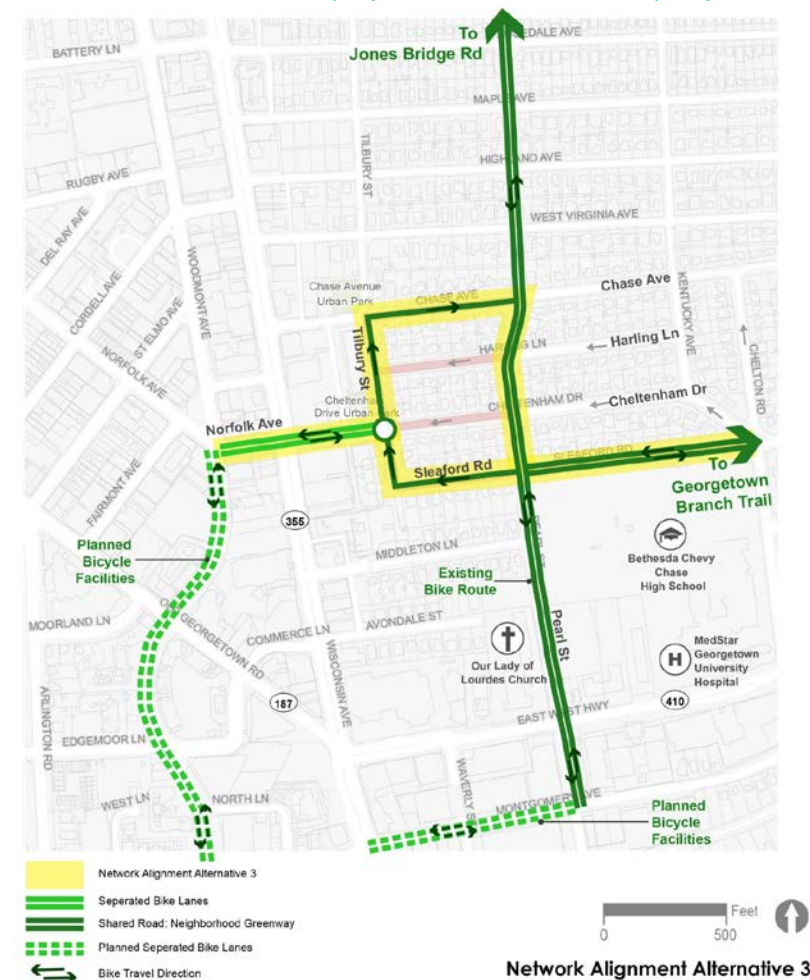
Cheltenham Drive



Parking impacts on Cheltenham Drive due to
Contra-flow bike lane

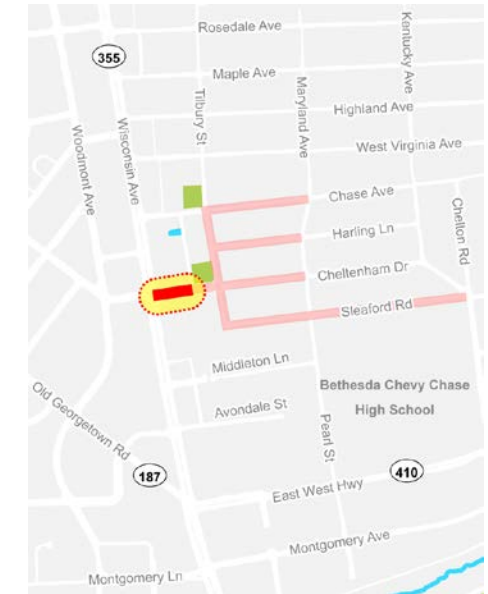
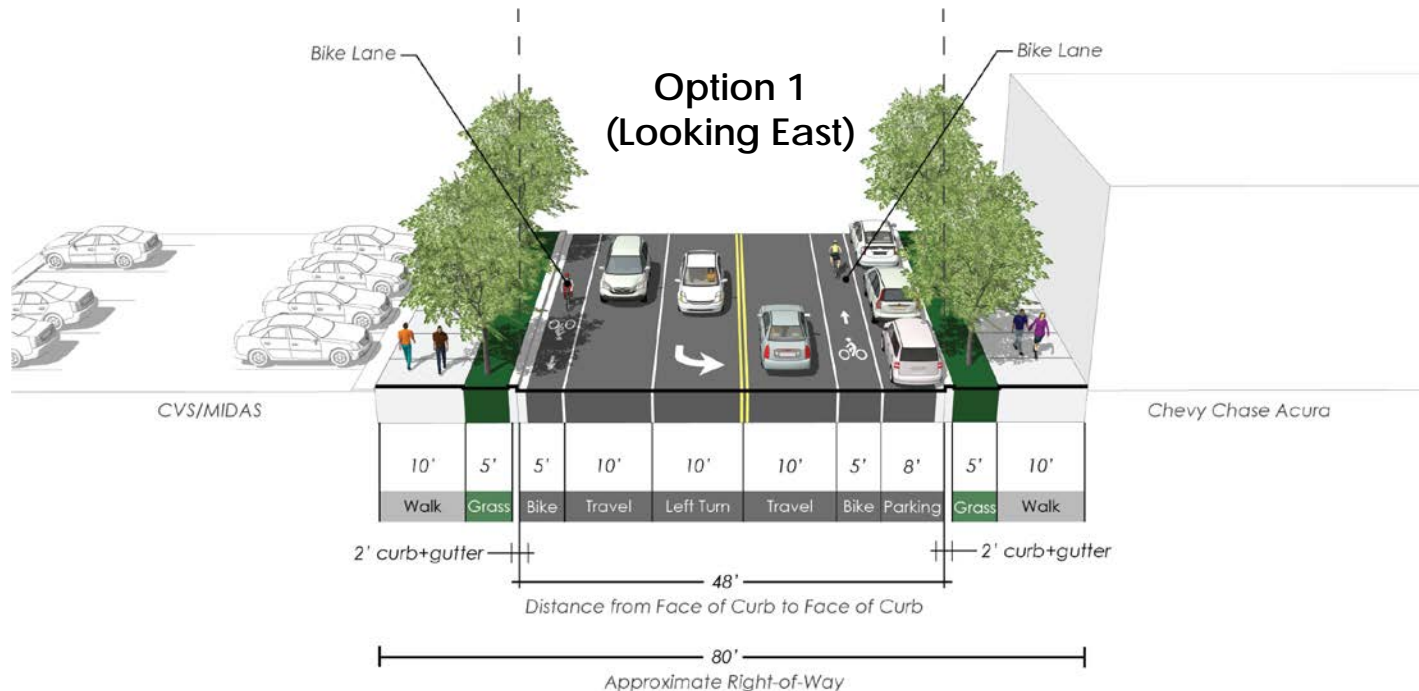
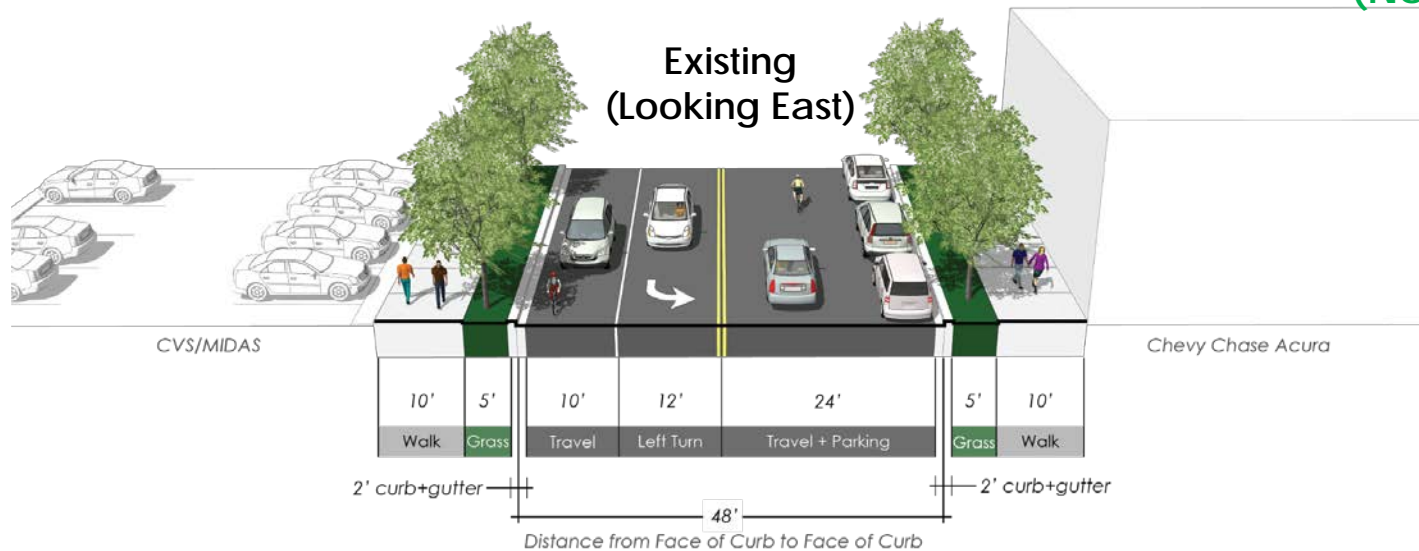
Alternative C:

Cheltenham Drive + Tilbury Street (NB) +
Chase Avenue (EB) + Sleaford Road (WB)



Longer detour for east-bound bike travel

Cheltenham Drive (Wisconsin Avenue to Alley) – Option 1: Conventional Bike Lanes (No Parking Impacts)



Key Map

Cross-section Evaluation Measures		
	Bicycle Comfort	Low
	Cost	Low
	ROW or Drainage & Utility Impacts	Low
	Parking Impacts	No
	Driveway-Bikeway Conflict	Medium
	Signal Redesign/Modification	No

Cheltenham Drive (Wisconsin Avenue to Alley) – Option 1: Conventional Bike Lanes (No Parking Impacts)

Existing (Looking East)

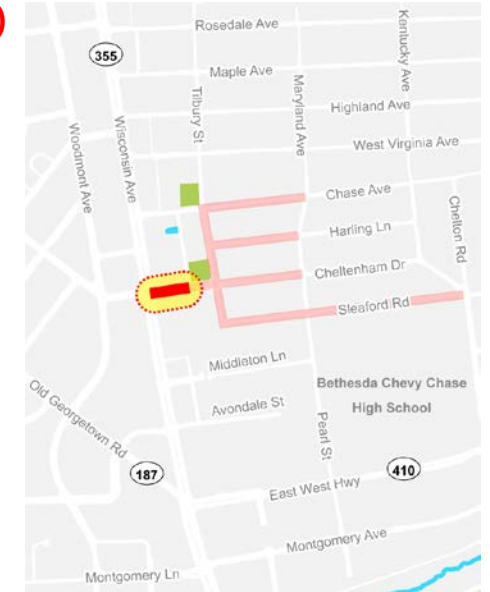
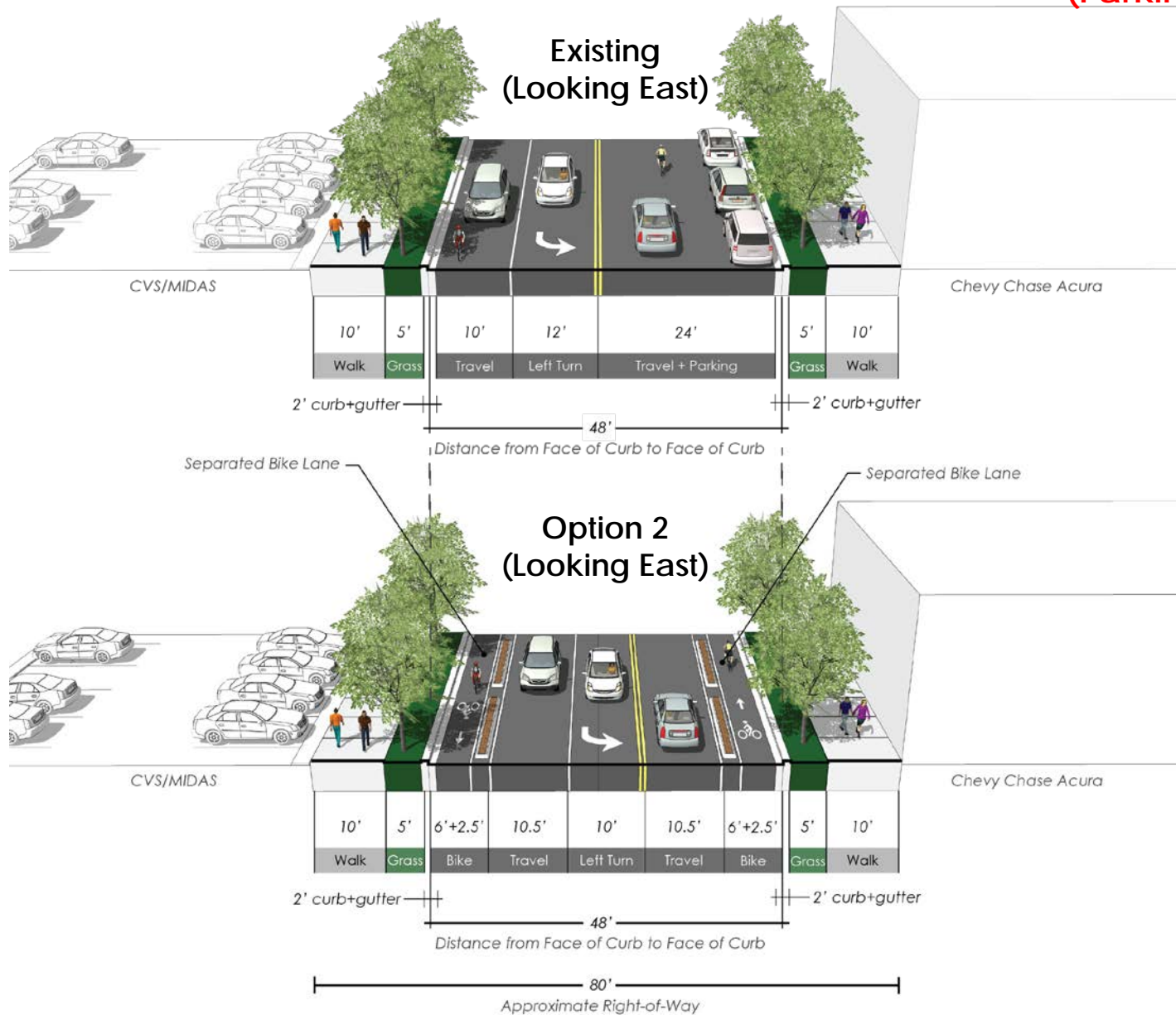


Cheltenham Drive (Wisconsin Avenue to Alley) – Option 1: Conventional Bike Lanes (No Parking Impacts)

Option 1 (Looking East)



Cheltenham Drive (Wisconsin Avenue to Alley) – Option 2: One-way Separated Bike Lanes (Parking Impacts: 4 Spaces)



Key Map

Cross-section Evaluation Measures		
	Bicycle Comfort	High
	Cost	Medium
	ROW or Drainage & Utility Impacts	Low
	Parking Impacts	Yes
	Driveway-Bikeway Conflict	Medium
	Signal Redesign/Modification	No

Cheltenham Drive (Wisconsin Avenue to Alley) – Option 2: One-way Separated Bike Lanes (Parking Impacts: 4 Spaces)

Existing (Looking East)

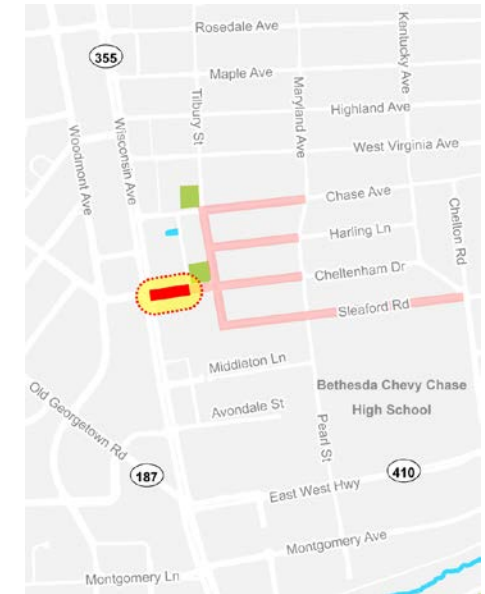
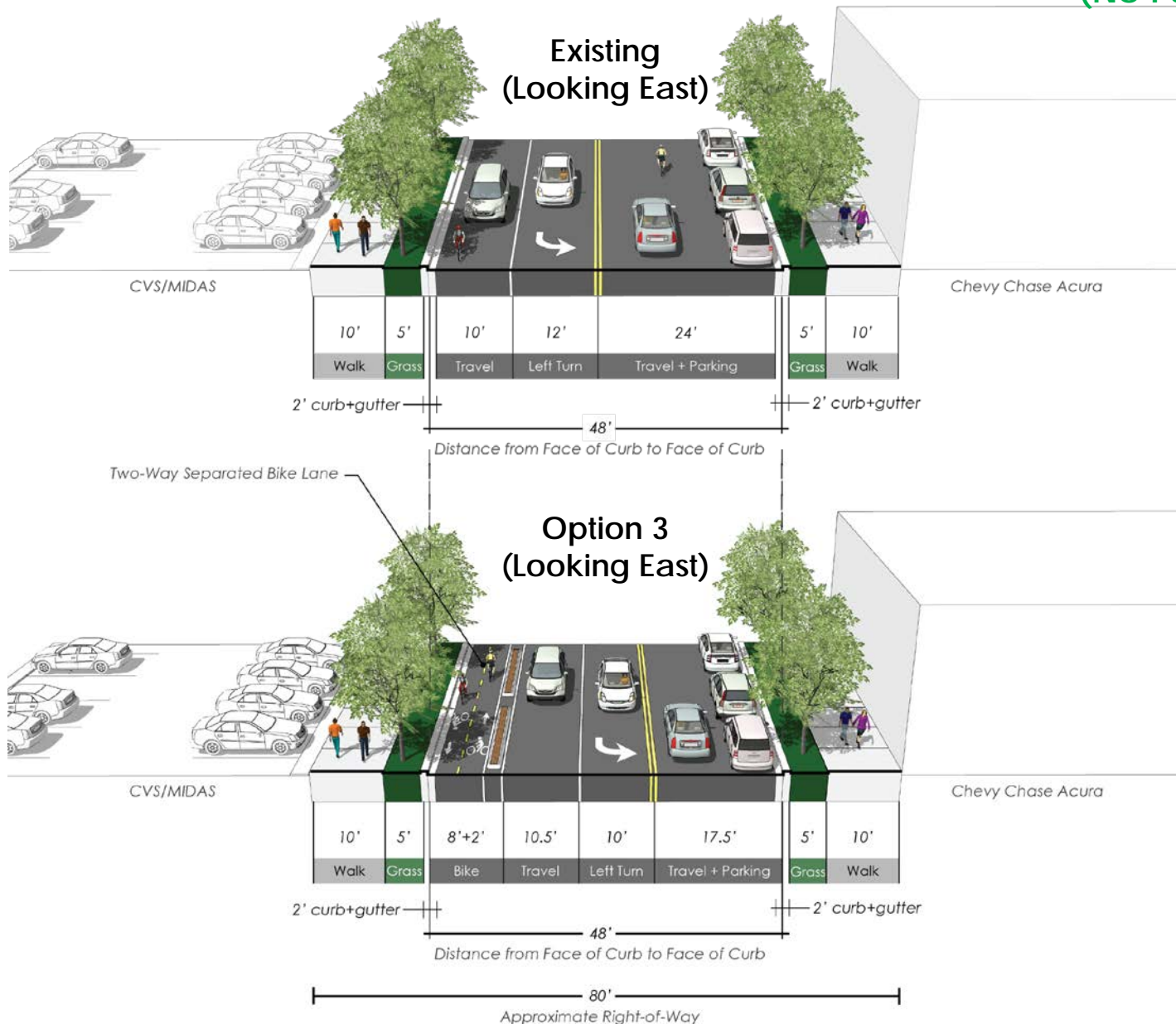


Cheltenham Drive (Wisconsin Avenue to Alley) – Option 2: One-way Separated Bike Lanes (Parking Impacts: 4 Spaces)

Option 2 (Looking East)



Cheltenham Drive (Wisconsin Avenue to Alley) – Option 3: Two-way Separated Bike Lanes (No Parking Impacts)



Key Map

Cross-section Evaluation Measures		
	Bicycle Comfort	Medium
	Cost	Medium
	ROW or Drainage & Utility Impacts	Low
	Parking Impacts	No
	Driveway-Bikeway Conflict	High
	Signal Redesign/Modification	Yes

Cheltenham Drive (Wisconsin Avenue to Alley) – Option 3: Two-way Separated Bike Lanes (No Parking Impacts)

Existing (Looking West)

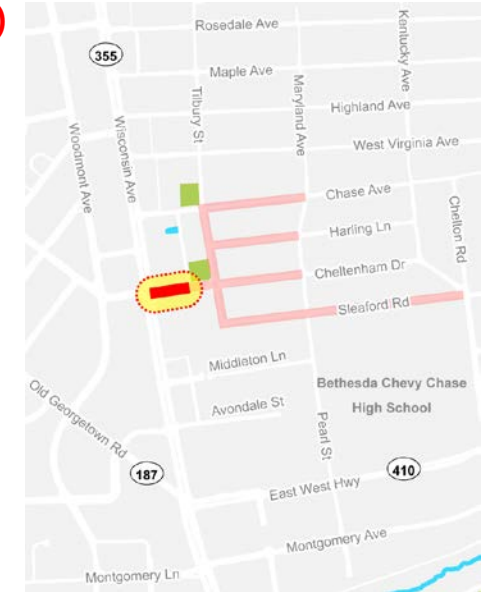
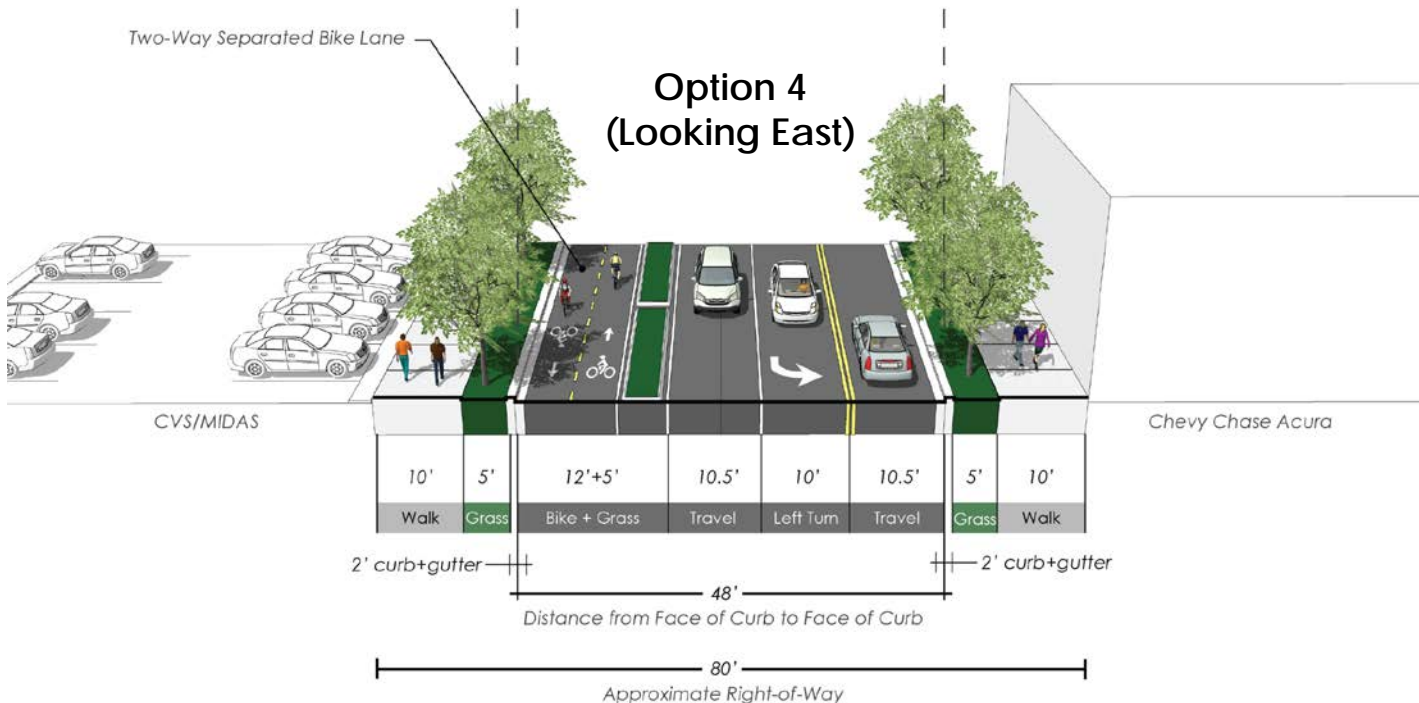
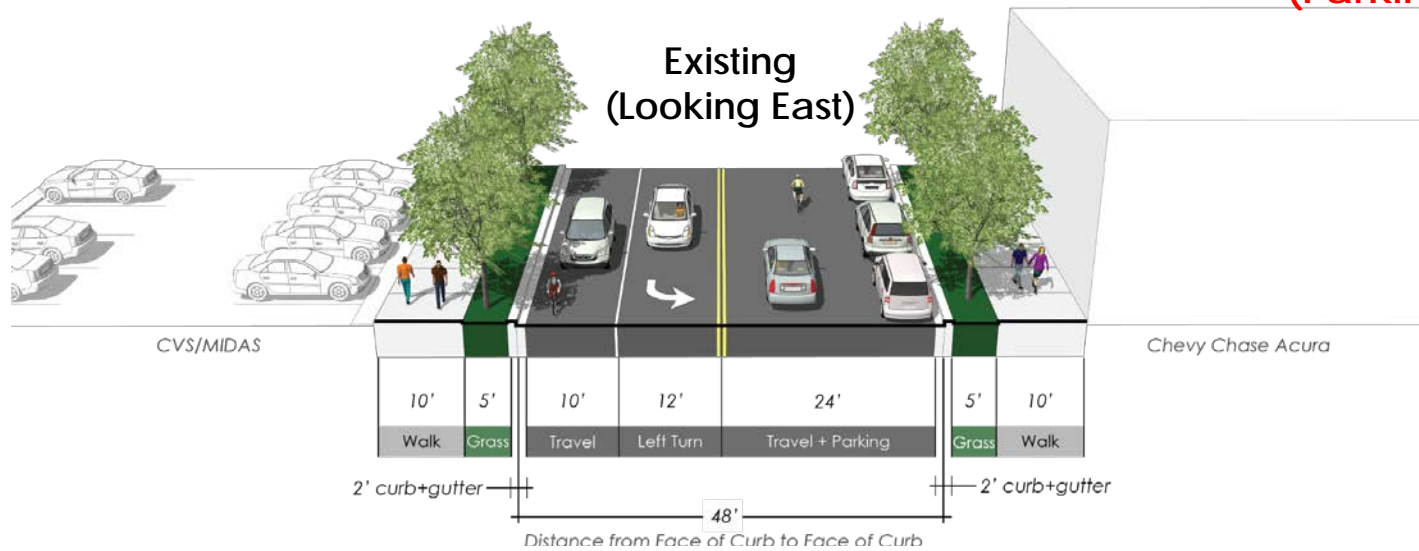


Cheltenham Drive (Wisconsin Avenue to Alley) – Option 3: Two-way Separated Bike Lanes (No Parking Impacts)

Option 3 (Looking West)



Cheltenham Drive (Wisconsin Avenue to Alley) – Option 4: Two-way Separated Bike Lanes (Parking Impacts: 4 Spaces)



Key Map

Cross-section Evaluation Measures		
	Bicycle Comfort	High
	Cost	Medium
	ROW or Drainage & Utility Impacts	Low
	Parking Impacts	Yes
	Driveway-Bikeway Conflict	High
	Signal Redesign/Modification	Yes

Cheltenham Drive (Wisconsin Avenue to Alley) – Option 4: Two-way Separated Bike Lanes (Parking Impacts: 4 Spaces)

Existing (Looking West)



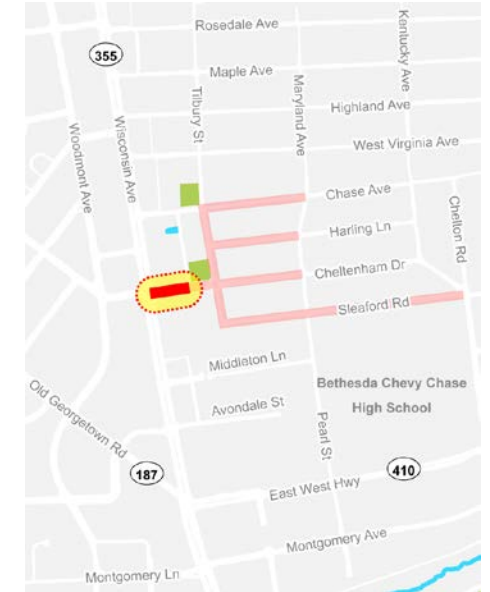
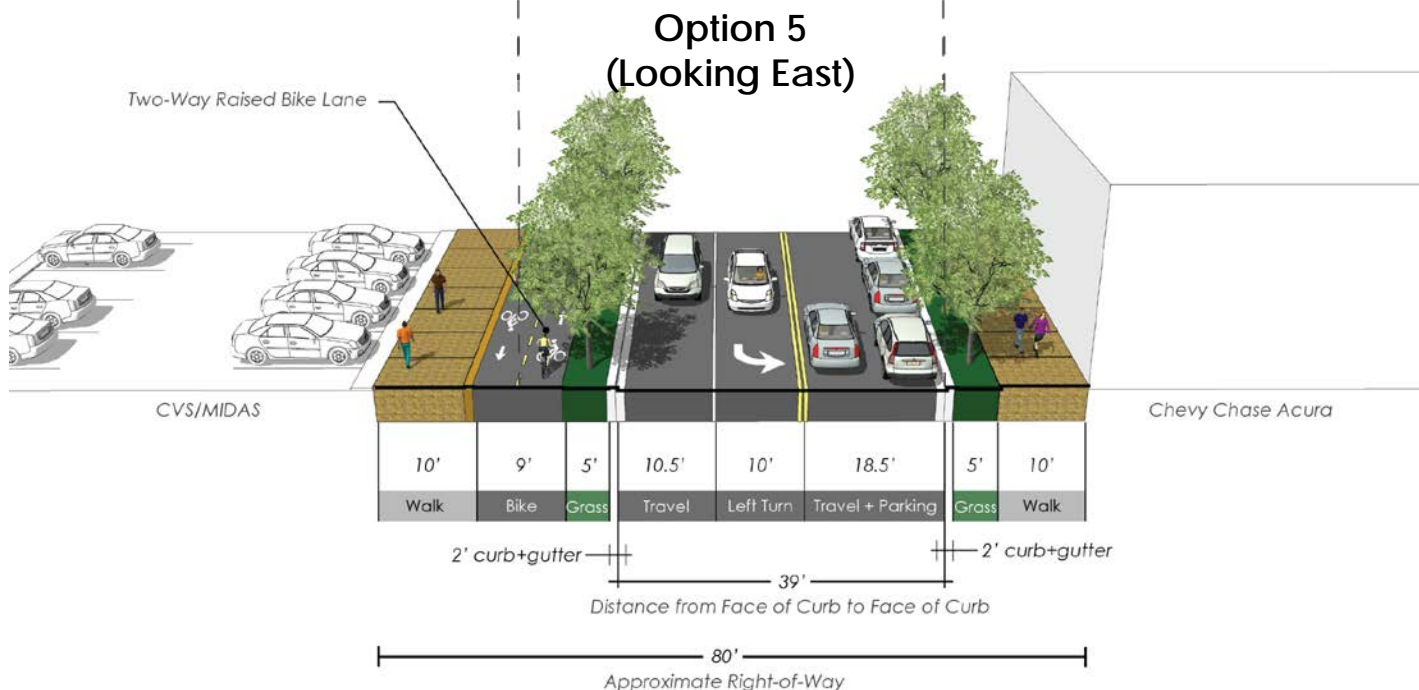
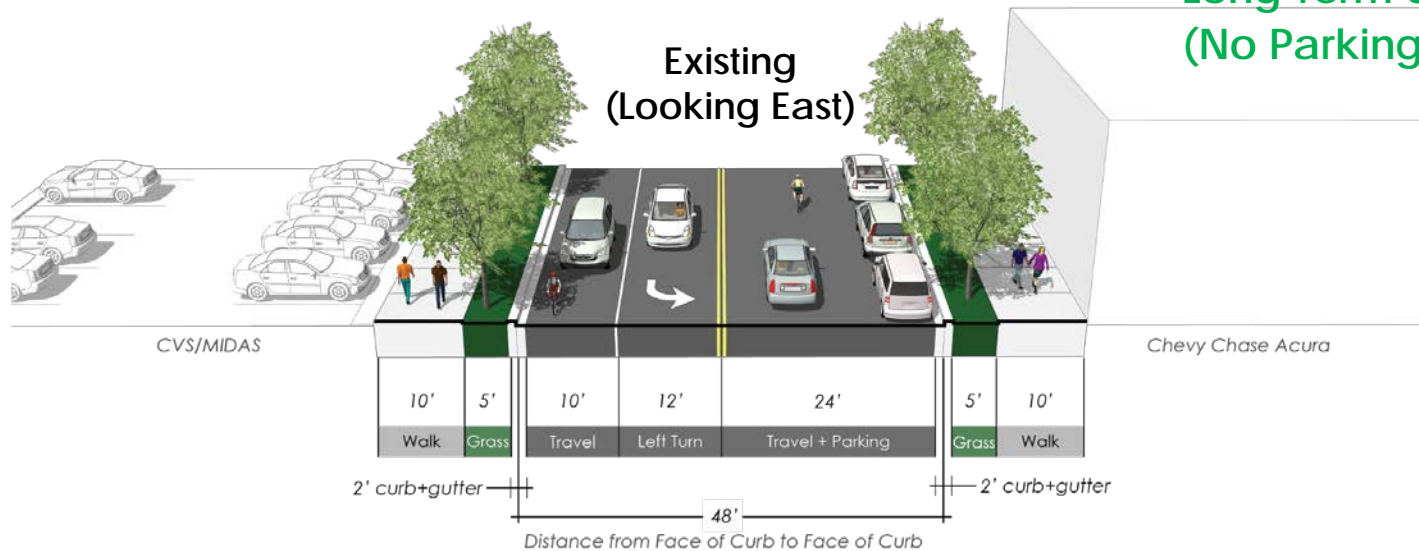
Cheltenham Drive (Wisconsin Avenue to Alley) – Option 4: Two-way Separated Bike Lanes (Parking Impacts: 4 Spaces)

Option 4 (Looking West)



Cheltenham Drive (Wisconsin Avenue to Alley) – Option 5: Two-way Raised Separated Bike Lanes

Long Term Ultimate Option
(No Parking Impacts)



Key Map

Cross-section Evaluation Measures		
	Bicycle Comfort	High
	Cost	High
	ROW or Drainage & Utility Impacts	High
	Parking Impacts	No
	Driveway-Bikeway Conflict	Low*
	Signal Redesign/Modification	Yes

* Assuming redesign or closure of some driveways

Cheltenham Drive (Wisconsin Avenue to Alley) – Option 5: Two-way Raised Separated Bike Lanes

Long Term Ultimate Option (No Parking Impacts)

Existing (Looking West)














Cheltenham Drive (Wisconsin Avenue to Alley) – Option 5: Two-way Raised Separated Bike Lanes

Long Term Ultimate Option (No Parking Impacts)

Option 5 (Looking West)

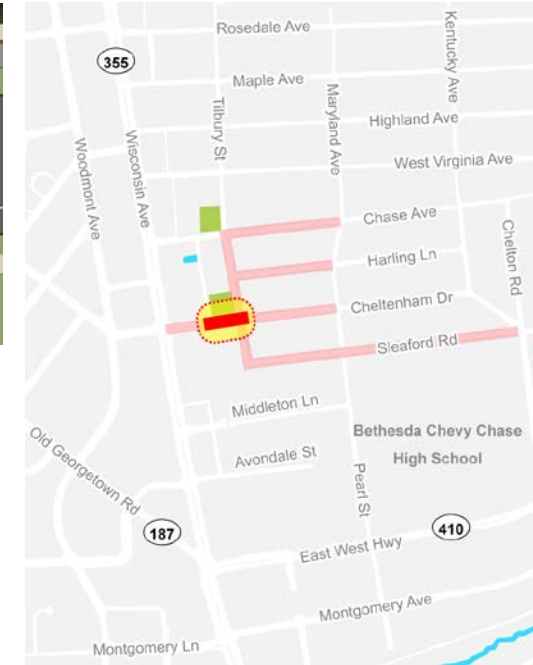
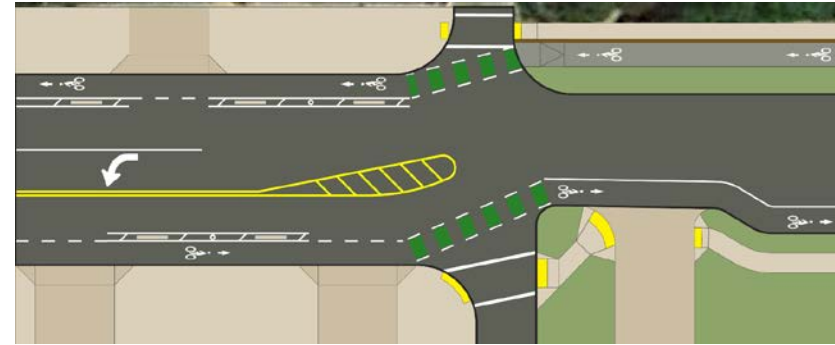
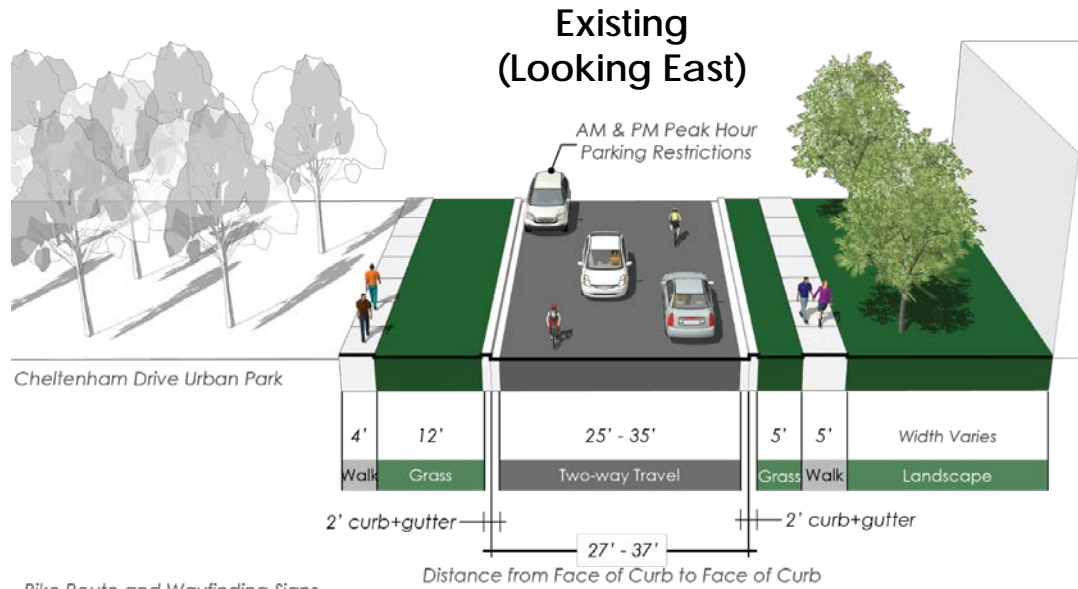


Cheltenham Drive (Wisconsin Avenue to Alley) Alternatives Comparison

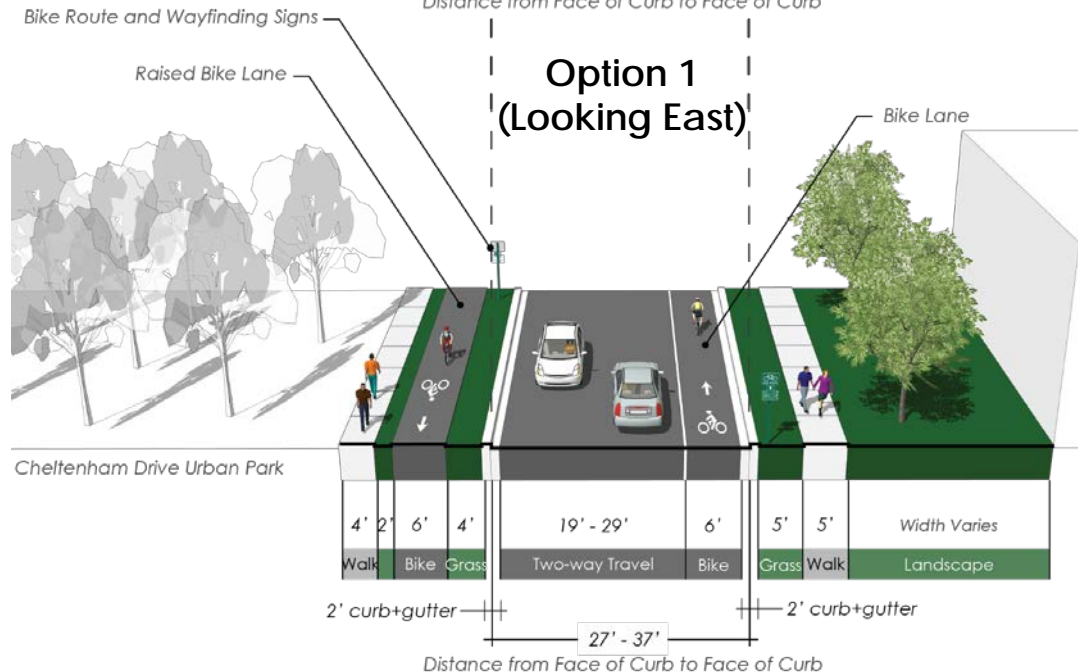
Cross-section Evaluation Measures		Option 1	Option 2	Option 3	Option 4	Option 5
		 Conventional Bike Lanes (No Parking Impacts)	 One-Way Separated Bike Lanes (Parking Impacts)	 Separated Two-Way Bike Lanes (No Parking Impacts)	 Separated Two-Way Bike Lanes (Parking Impacts)	 Raised Separated Two-Way Bike Lanes (No Parking Impacts)
	Bicycle Comfort	Low	High	Medium	High	High
	Cost	Low	Medium	Medium	Medium	High
	ROW or Drainage & Utility Impacts	Low	Low	Low	Low	High
	Parking Impacts	No	Yes (4 Spaces)	No	Yes (4 Spaces)	No
	Driveway-Bikeway Conflict	Medium	Medium	High	High	Low*
	Signal Redesign/Modification	No	No	Yes	Yes	Yes

* Assuming redesign or closure of some driveways

Cheltenham Drive (Alley to Tilbury Street) – Option 1: One-way Bike Lanes

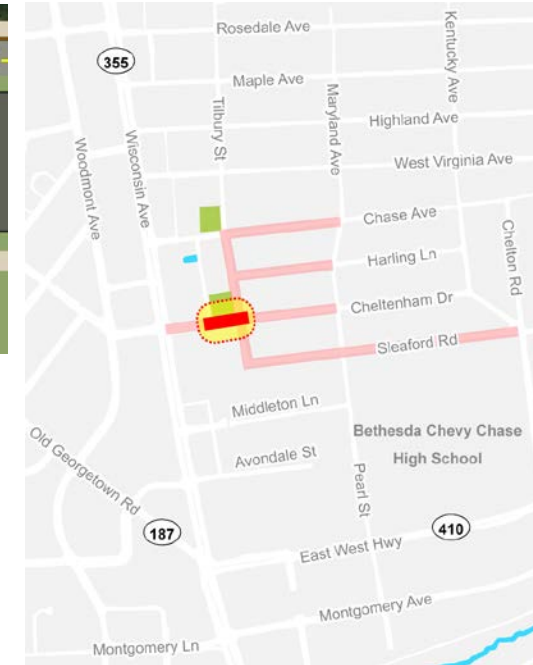
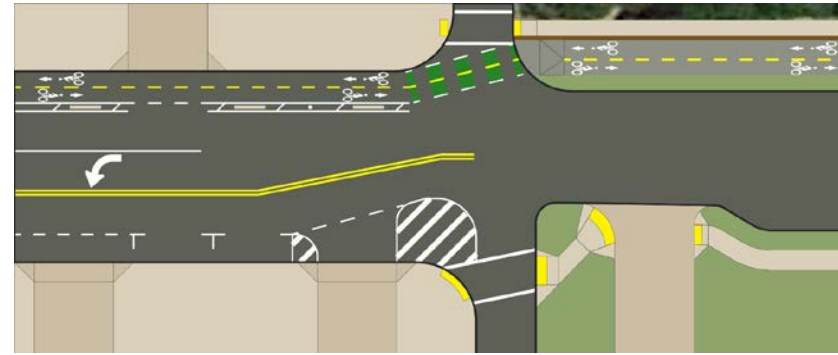
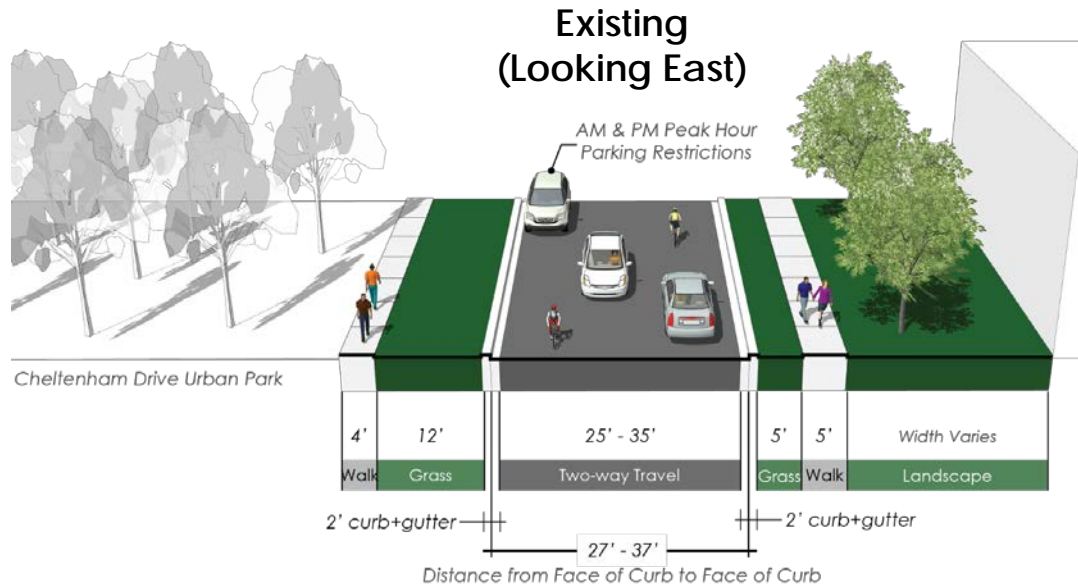


Key Map

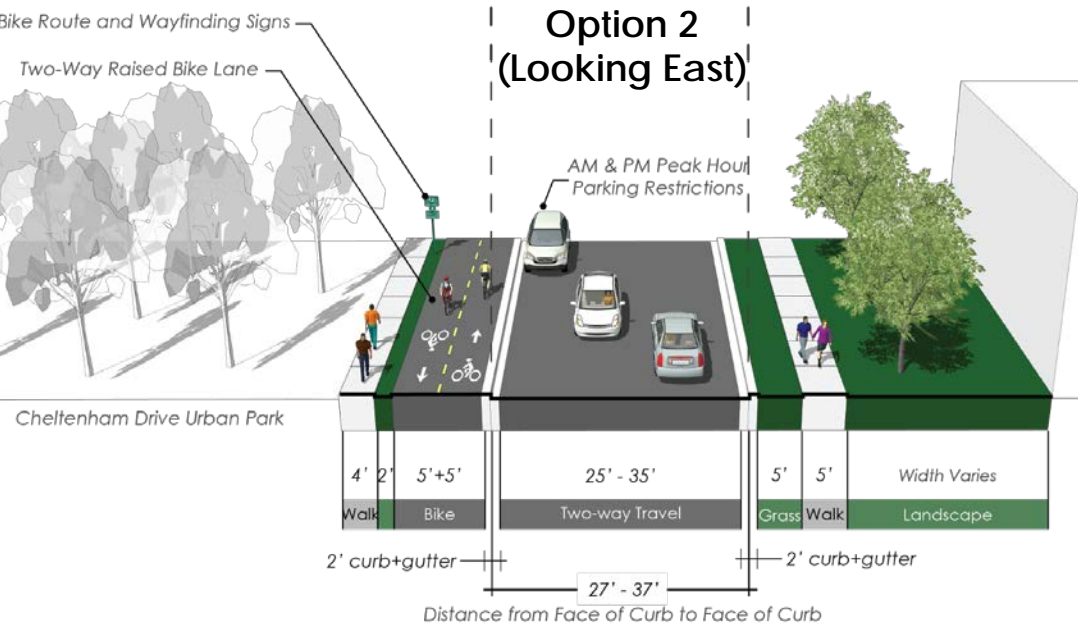


Cross-section Evaluation Measures		
	Bicycle Comfort	Medium
	Cost	Medium
	ROW or Drainage & Utility Impacts	Low
	Parking Impacts	No
	Driveway-Bikeway Conflict	Medium

Cheltenham Drive (Alley to Tilbury Street) – Option 2: Two-way Separated Bike Lanes



Key Map



Cross-section Evaluation Measures		
	Bicycle Comfort	High
	Cost	High
	ROW or Drainage & Utility Impacts	Low
	Parking Impacts	No
	Driveway-Bikeway Conflict	Low

Network Alignment Alternative A

Cheltenham Drive + Tilbury Street + Sleaford Road



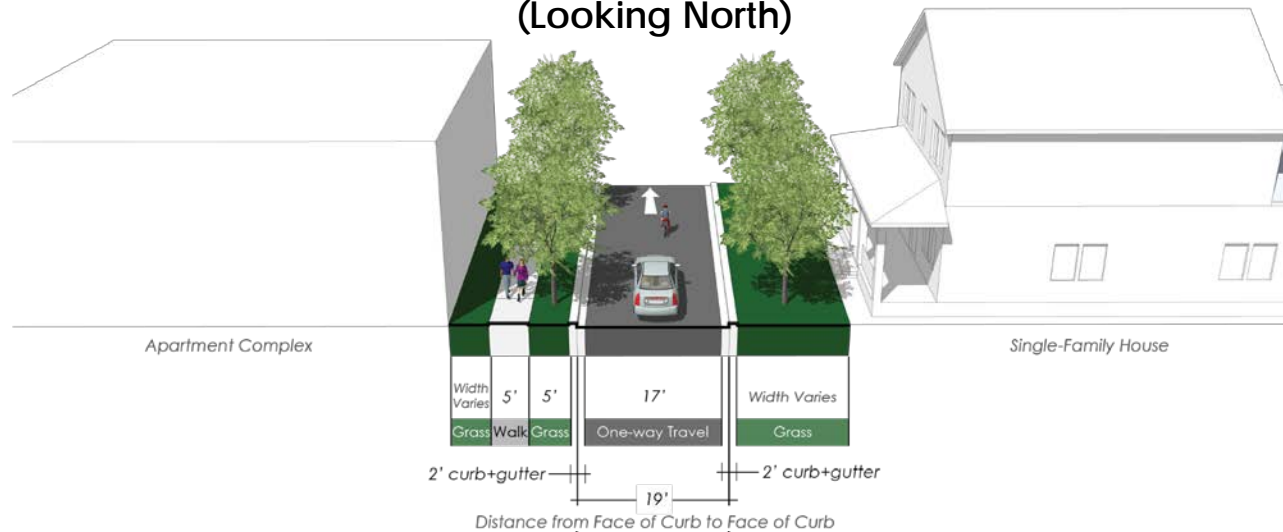
- South-bound contra-flow bike lane + north-bound shared lane on Tilbury Street
- No parking present on Tilbury Street
- Two-way shared lanes on Sleaford Road

Network Evaluation Measures

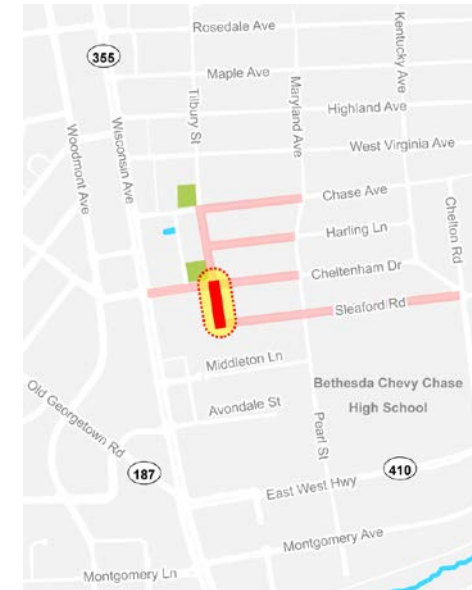
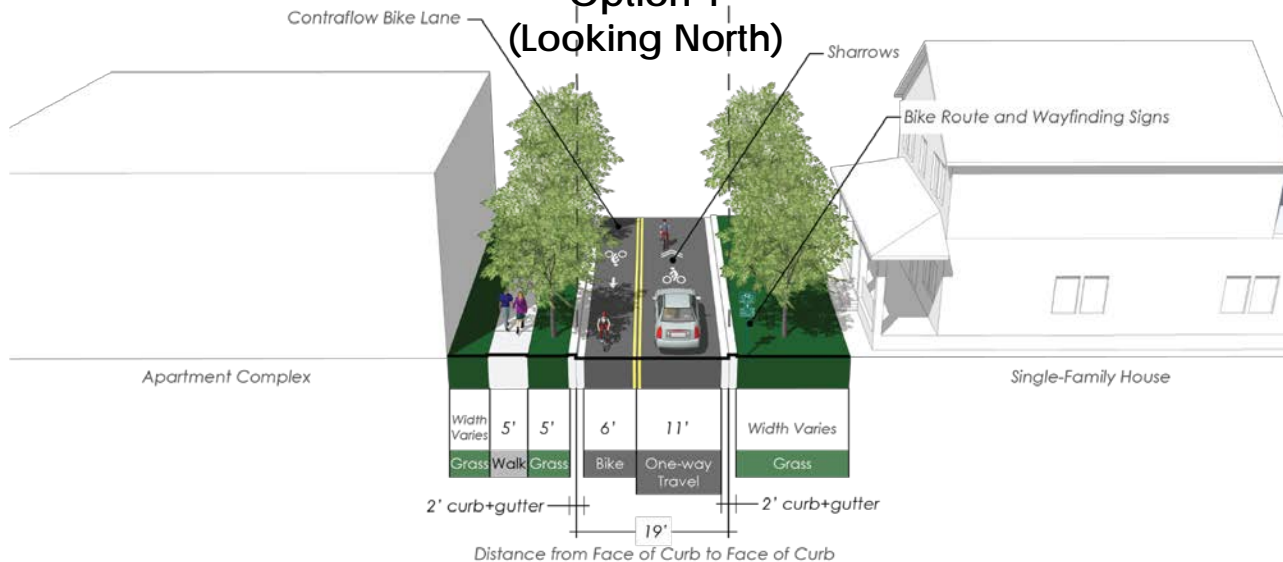
	Bicycle Route Directness	Medium
	Number of Intersections	2
	Contraflow Travel	Yes
	Route Length (Feet)	1,200'
	Network Alignment Parking Impacts	No

Tilbury Street (Sleaford Road to Cheltenham Drive) – Option 1: Neighborhood Greenway (Shared Road) + Contra-flow Bike Lane

Existing
(Looking North)



Option 1
(Looking North)

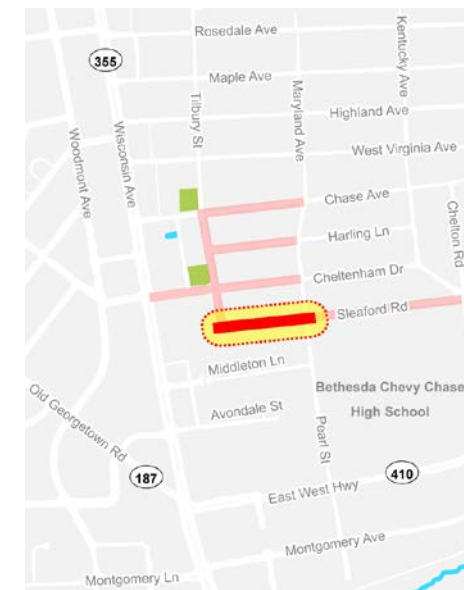
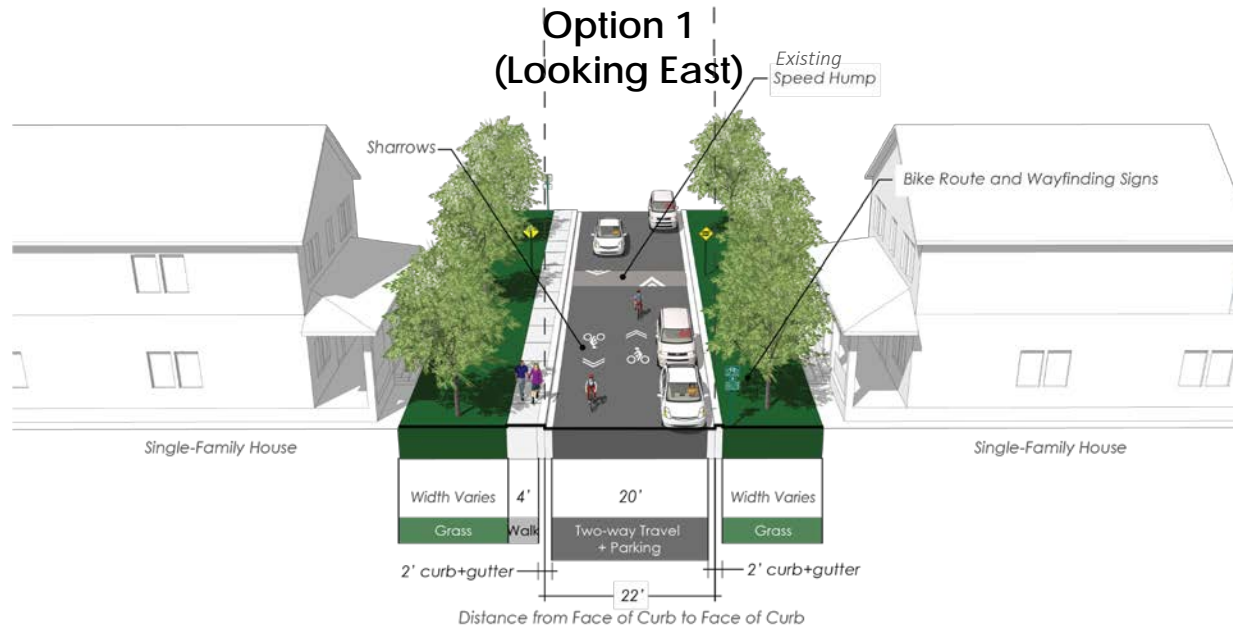
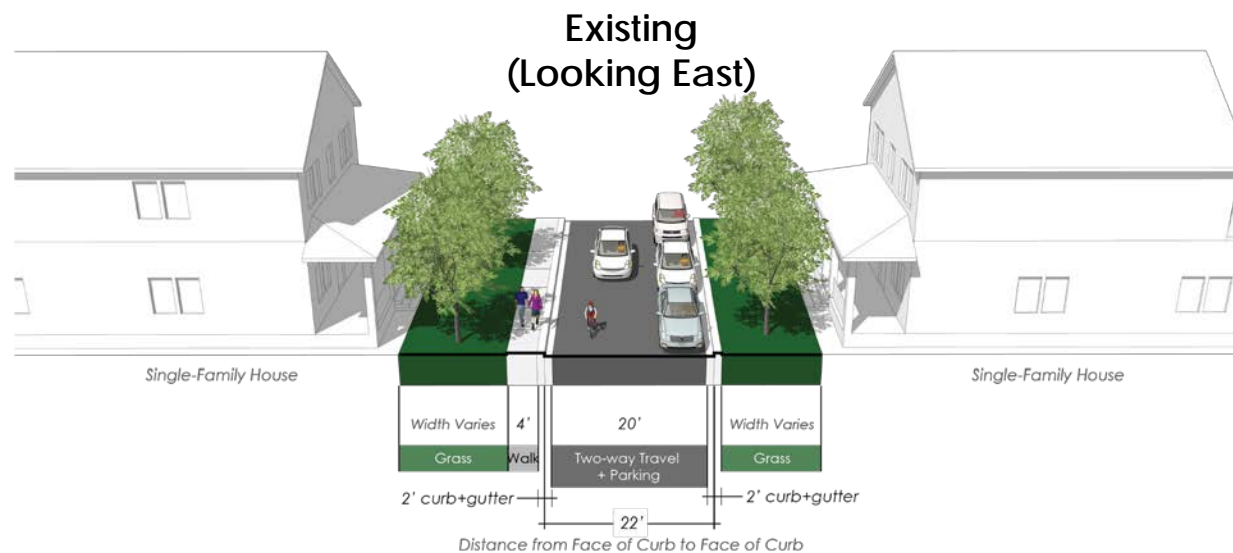


Key Map

Cross-section Evaluation Measures

	Bicycle Comfort	High
	Cost	Low
	ROW or Drainage & Utility Impacts	Low
	Parking Impacts	No
	Driveway-Bikeway Conflict	Low

Sleaford Road (Tilbury Street to Pearl Street) – Option 1: Neighborhood Greenway (Shared Road)



Key Map

Cross-section Evaluation Measures		
	Bicycle Comfort	High
	Cost	Low
	ROW or Drainage & Utility Impacts	Low
	Parking Impacts	No
	Driveway-Bikeway Conflict	Low

Network Alignment Alternative B

Cheltenham Drive



**Parking
Impacts**

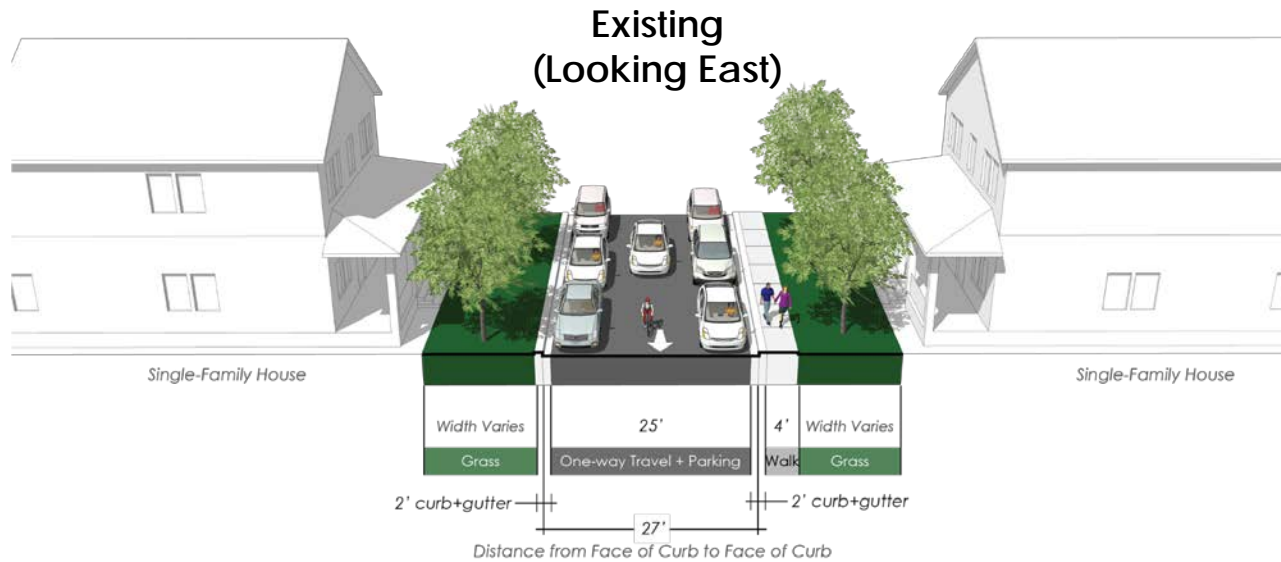
- East-bound contra-flow bike lane + west-bound shared lane on Cheltenham Drive
- Around 20 on-street parking spaces will be impacted by the east-bound contra-flow bike lane on Cheltenham Drive

Network Evaluation Measures

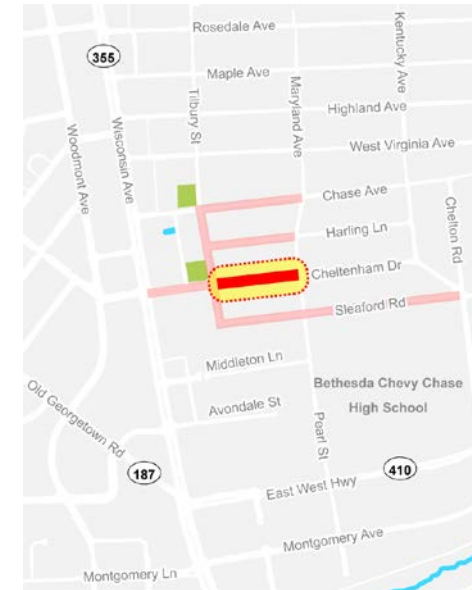
	Bicycle Route Directness	High
	Number of Intersections	1
	Contraflow Travel	Yes
	Route Length (Feet)	960'
	Network Alignment Parking Impacts	Yes (20 Spaces)

Cheltenham Drive (Tilbury Street to Pearl Street)

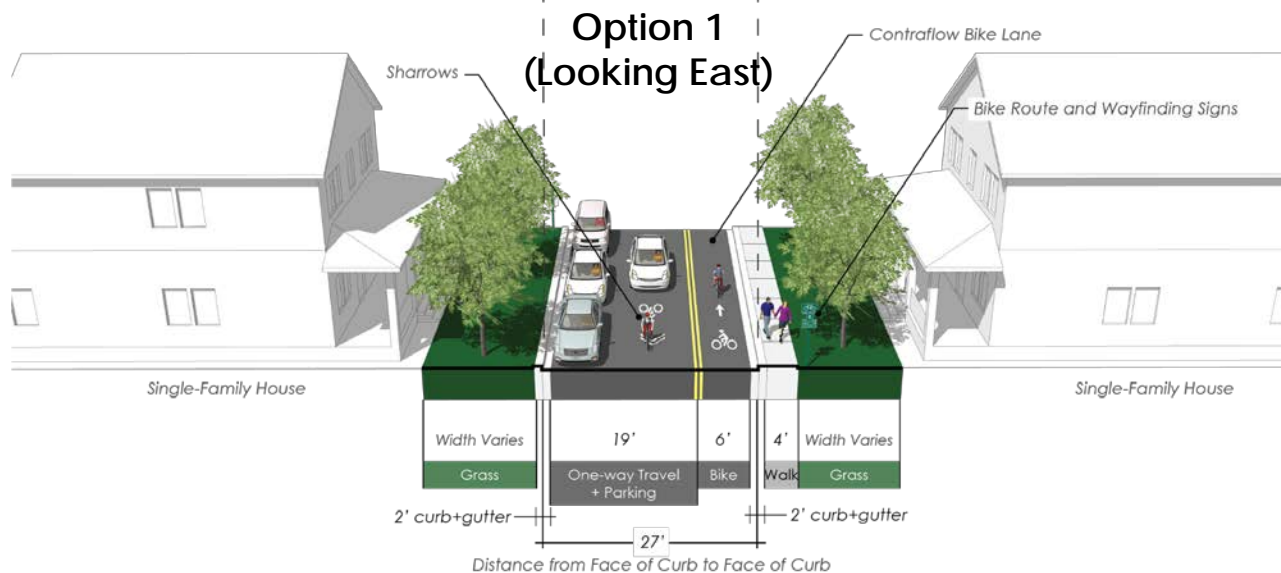
Neighborhood Greenway (Shared Road) + Contra-flow Bike Lane



(Parking Impacts – 20 Spaces)



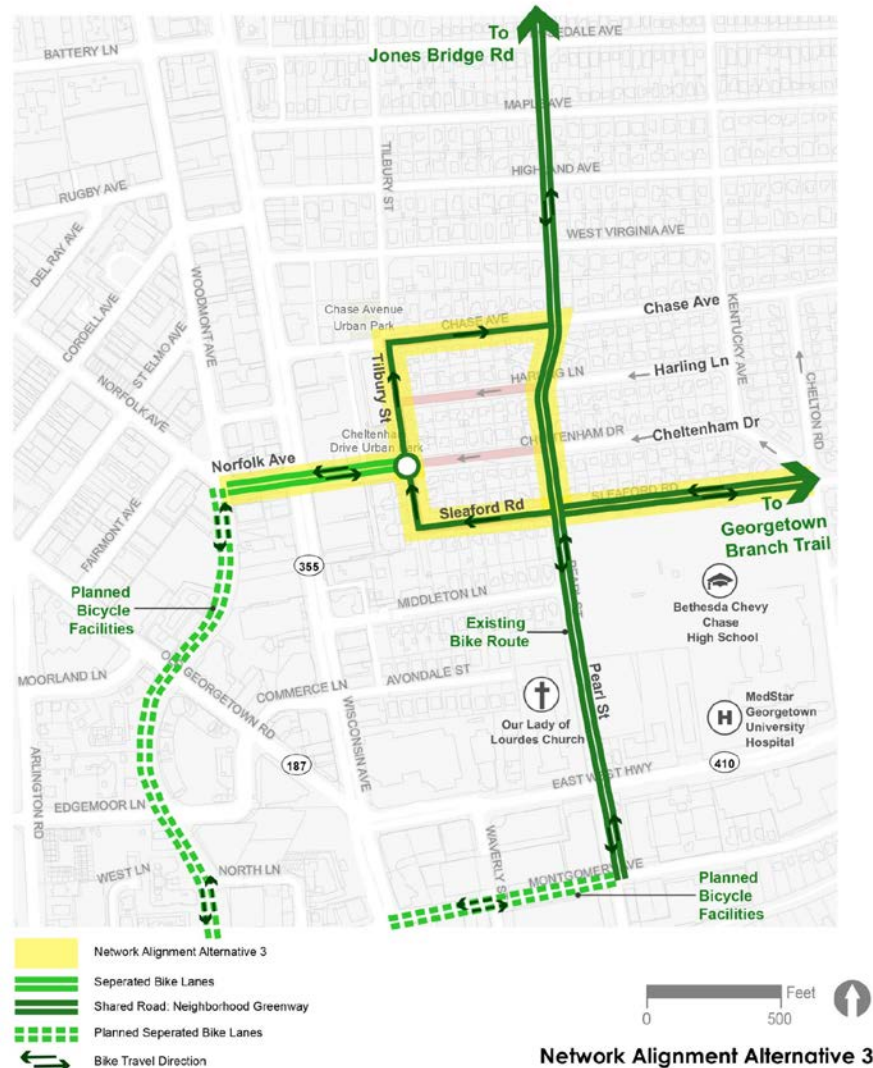
Key Map



Cross-section Evaluation Measures		
	Bicycle Comfort	High
	Cost	Low
	ROW or Drainage & Utility Impacts	Low
	Parking Impacts	High (20 Spaces)
	Driveway-Bikeway Conflict	Low

Network Alignment Alternative C

Cheltenham Drive + Tilbury Street (NB) + Chase Avenue (EB) + Sleaford Road (WB)

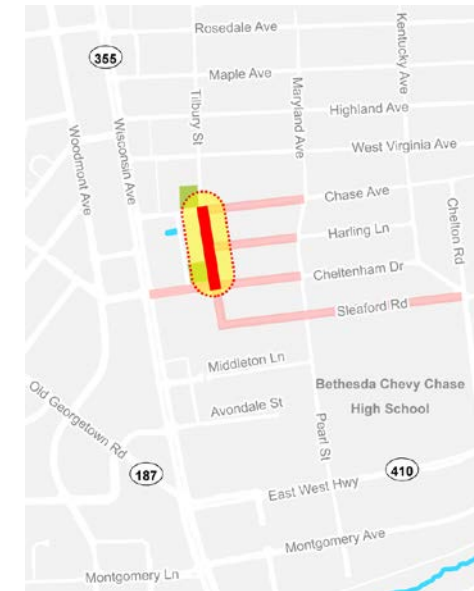
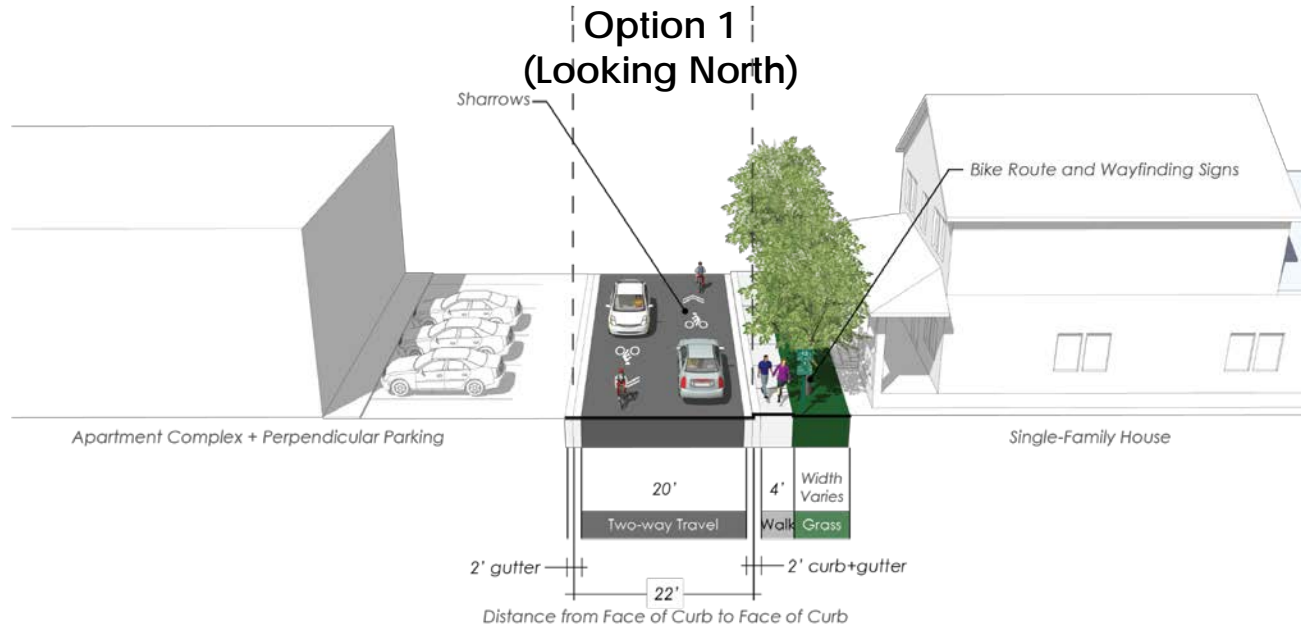
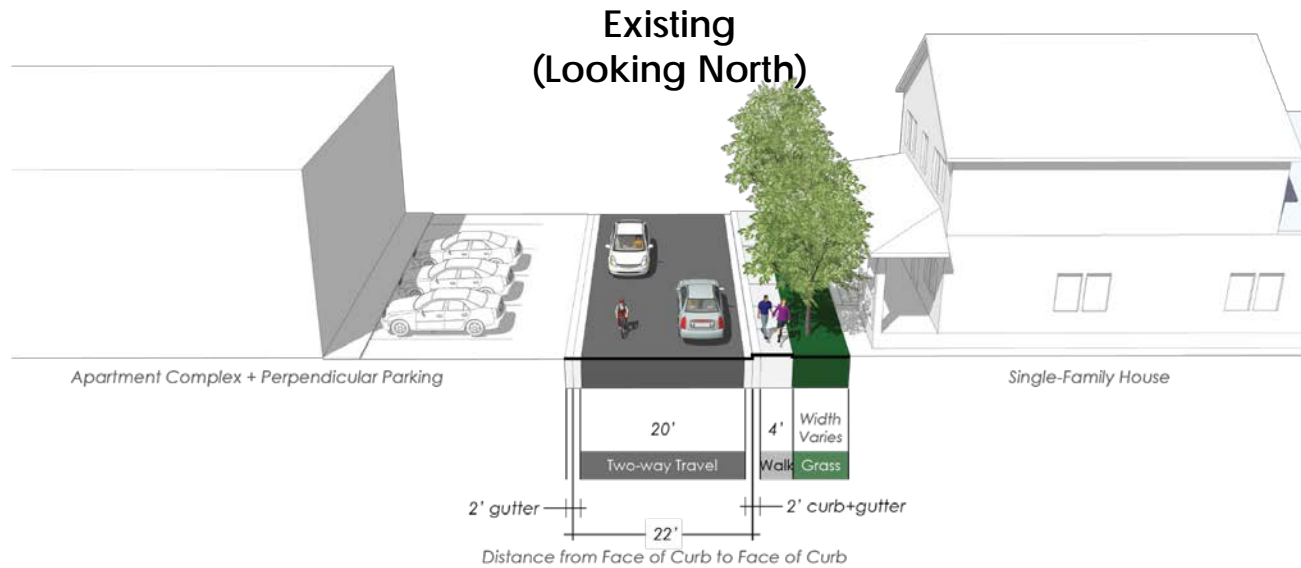


- Shared Lanes on Tilbury Street, Chase Avenue, and Sleaford Road
- Longer detour for east-bound bike route

Network Evaluation Measures

	Bicycle Route Directness	Low
	Number of Intersections	4
	Contraflow Travel	No
	Route Length (Feet)	1,500'
	Network Alignment Parking Impacts	No

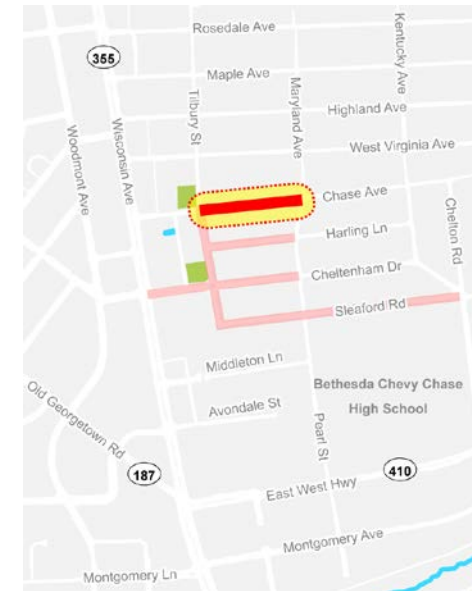
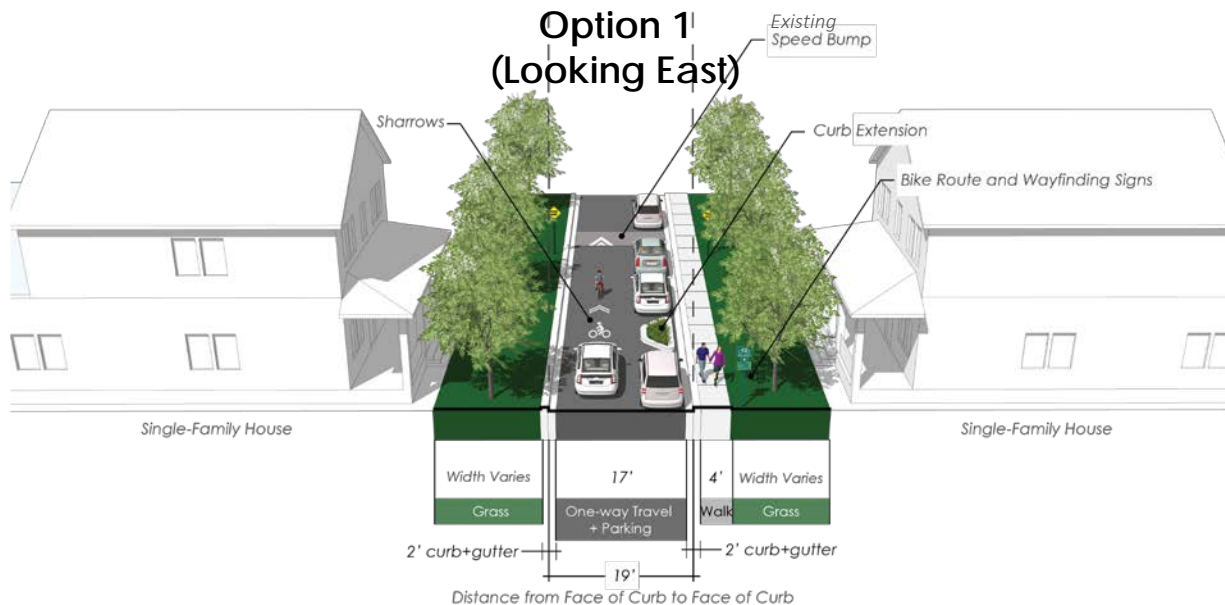
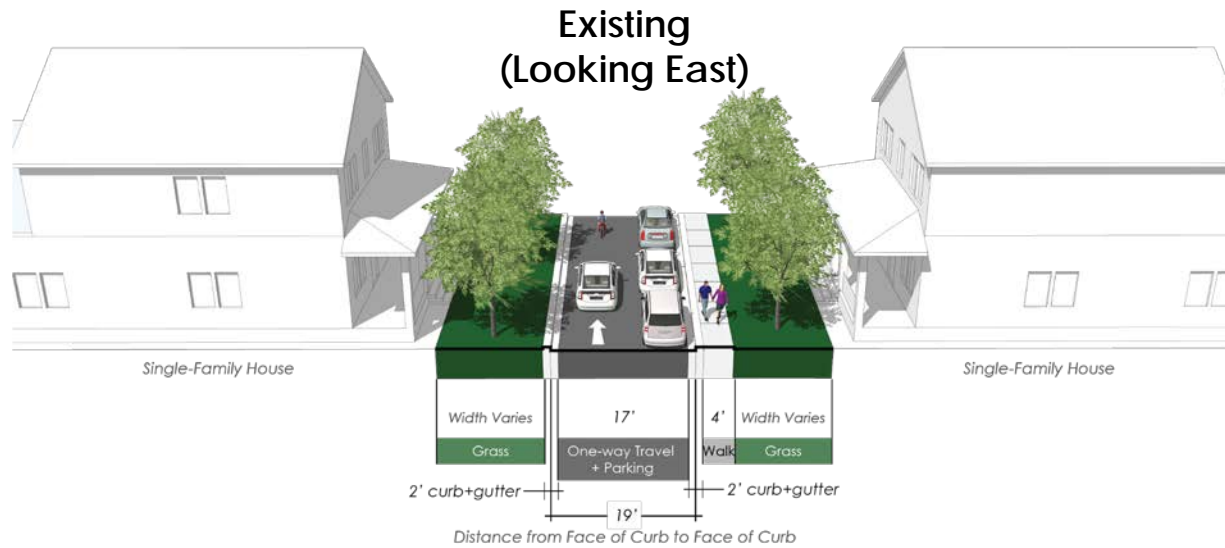
Tilbury Street (Cheltenham Drive to Chase Avenue) – Option 1: Neighborhood Greenway (Shared Road)



Key Map

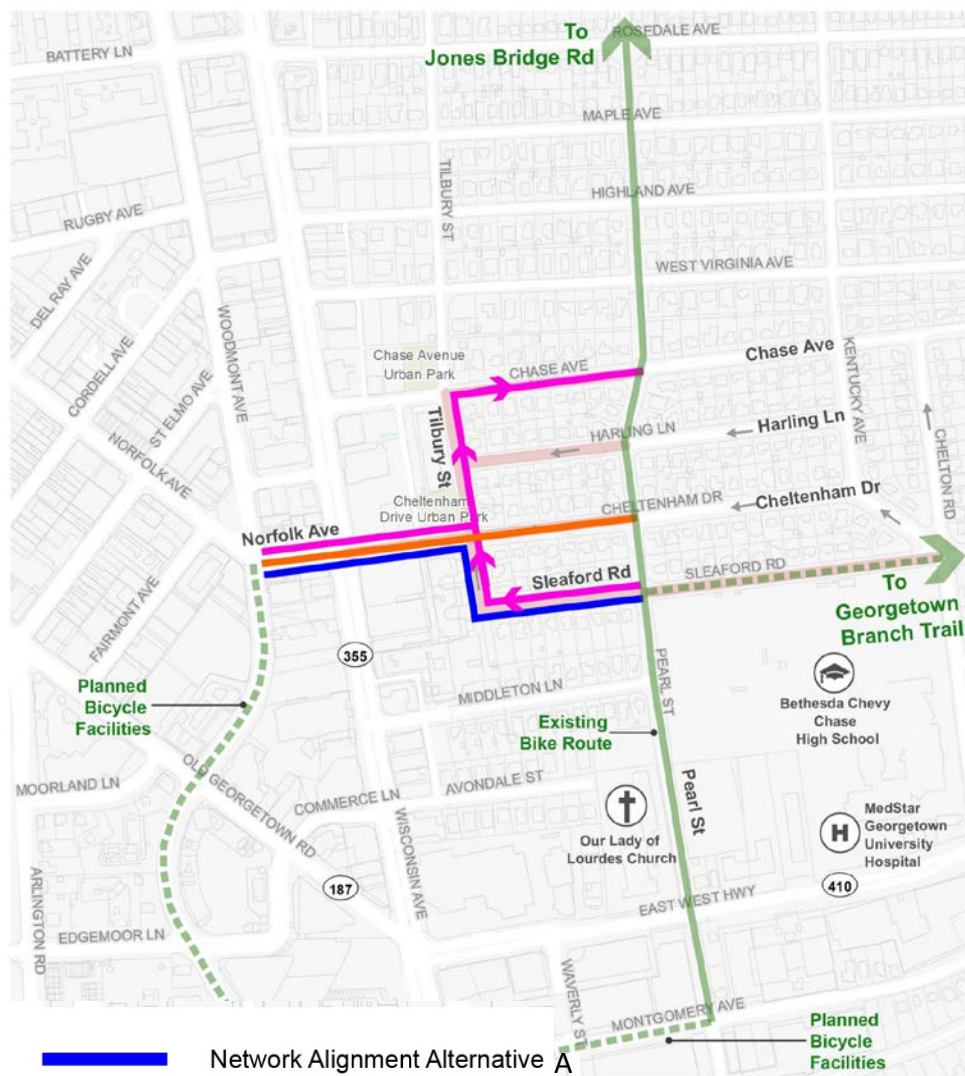
Cross-section Evaluation Measures		
	Bicycle Comfort	High
	Cost	Low
	ROW or Drainage & Utility Impacts	Low
	Parking Impacts	No
	Driveway-Bikeway Conflict	Low

Chase Avenue (Tilbury Street to Pearl Street) – Option 1: Neighborhood Greenway (Shared Road)



Key Map

Cross-section Evaluation Measures		
	Bicycle Comfort	High
	Cost	Low
	ROW or Drainage & Utility Impacts	Low
	Parking Impacts	No
	Driveway-Bikeway Conflict	Low



Network Evaluation Measures

		Alt. A Tilbury St + Sleaford Rd	Alt. B Cheltenham Dr	Alt. C Tilbury St + Chase Ave
	Bicycle Route Directness	Medium	High	Low
	Number of Intersections	2	1	4
	Contraflow Travel	Yes (Short)	Yes (Long)	No
	Route Length (Feet)	1,200'	960'	1,500'
	Network Alignment Parking Impacts	No	Yes (20 Spaces)	No



Next Steps

- Public feedback through Survey (October 2021)

Survey Link: <https://www.surveymonkey.com/r/CheltenhamDrive>

- Identify preferred network options and cross-section alternatives
- Concept Design Plan Set & Final Report in November/December 2021





Questions & Discussion

Cheltenham Drive – Wisconsin Avenue to Pearl Street, Bethesda

Bikeway Feasibility Study



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