Survey 123 Methodology

Federal Boulevard First/Last Mile Project

Prepared for:



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Creating a Tool in Survey 123 Methodology

The following outlines the methodology used to develop the Colorado Department of Transportation (CDOT) Federal First/Last Mile (FLM) Field Inventory tool in Survey 123. The field inventory tool is a powerful tool that captures the characteristics, location, and photos of deficiencies that can be used to identify improvements and display them on maps, in tables, and in documents.

Survey 123 Overview

Survey 123 is a GIS-based survey tool developed by ESRI, creator of ArcMap, ArcGIS Pro, and ArcGIS Online, among many other geospatial products. Survey 123 allows users to fill out surveys without an account online via a computer or a mobile device. Via mobile, user responses will have a GPS location attached, along with the option to attach photos. Data from survey responses can be easily exported to shapefiles or Excel files, and data can be visualized and shared using ArcGIS Online webmaps. For full documentation from ESRI, click <u>Get Started with ArcGIS Survey123</u>.

Accessing Survey 123 Online

To create a new survey or manage existing surveys, use survey123.arcgis.com. **Figure 1** depicts an example of the "My Surveys" page after logging into Survey 123.

Figure 1: Survey 123 My Surveys Page





Developing a New Survey

Once logged into Survey 123 and on the My Survey page, click **New Survey** to create a blank survey from scratch (**Figure 2**).

Figure 2: Create a New Survey Screen

ArcGIS Survey123 My surveys My Surveys + New survey	
My favorites 🔻	
Records: 13 C	Records: 126
by Nelson.Huffaker_FHU	by Nelson.Huffaker_FHU

Choose Blank Survey using the web designer, as shown on Figure 3.

Figure 3: Blank Survey Option in Web Designer





Adding Questions to a Survey

After you have selected **Blank Survey** in the web designer, a blank survey will display with a few sections as shown on **Figure 4**. In web designer, edit sections by clicking on them and entering information in the pane on the right side of the page.

Figure 4: Blank Survey Panel

Example Si	urvey 🧷 Survey Name	c	Dvervie
[Survey title not set	Survey Title	
	Description content for the survey	Survey Description	
	Please drag from or press on	the right panel to add your first question.	
		Submit	

Survey Name is the name that will display on the My Surveys page and can be seen by only the creator.

Survey Title is the title shown at the top of the survey and seen by participants. Survey Title can be either text or an image and can be set on the Edit panel, as shown on Figure 5.

4 Add	Edit	() Appearance	Options				
Survey header							
Text Image							
Text							
Example Su	urvey Title						
Alignment: ΞΞΞ							
Tip: Header background and text color can be changed in the Appearance > Theme section.							

Figure 5: Edit Panel for Survey Title



Survey Description is a short descriptor to introduce the survey or provide instructions to users, as shown on **Figure 6**.

Figure 6: Edit Panel for Survey Description



The side panel also contains three buttons at the bottom: **Saved, Preview, and Publish**, as shown on **Figure 7**. Click **Saved** to save the edits to your survey so that you can come back to it later. Click **Preview** to preview the survey as if you were a user taking the survey. Click **Publish** to make the survey "live" to whatever audience you choose on the **Collaborate** tab. For this section, make sure to click **Saved** often so that you do not lose any changes.

Figure 7: Save, Preview, and Publish Buttons





Several key question categories are used to develop an FLM Field Inventory survey. The question flow is as follows:

- Identify an Issue Type (for example, a sidewalk issue, an intersection issue, or a bike lane issue).
- Describe the issue with a free response question.
- Specify the location of the issue on a map.
- Provide specific details about the issue (typically an optional free response or multiple-choice question).
- Select potential recommendations (an optional multiple-choice question).

Figure 8 depicts an example of the completed question flow, and **Appendix A** has detailed recommendations for the language to use when setting up an FLM Field Inventory Survey.

Figure 8: Example Survey Results

Example Survey Title	Location of the issue Click on the map to add a point
Description for the example survey	See Find address or place
What kind of feature has the issue?* Please choose one	+ - W 55th Ave -
Sidewalk	
O Bikelane	
O Trail	Lan, Nusa, Nusa, Lanua, Lan Cemmunity waps Contractions, County and Liny of Powerea by Ean No geometry captured yet.
Please describe the issue*	Proposed solution to sidewalk issue
Eg: the sidewalk is too narrow; the bike lane does not have proper protection from traffic etc.	
	Submit

To begin adding questions, click Add on the Survey Design page (Figure 9).

Figure 9: Add Button on Survey Design Page

Example Survey 🥒 Overview Design Colla	aborate Analyze Data	Settings 🔏
Example Survey Title	Add Edit	♀AppearanceOptions
Description for the example survey	Text, number, date, and time ☐ Singleline text	T Multiline text
Please drag from or press on the right panel to add your first question.	12 ³ Number ∰ Date	-o- Slider
Submit	Date and time	Email



This example shows how to add a few single select choices, a description box, a map, and some secondary questions triggered from the **Single select** choice. To add a **Single select** choice question, click **Single select** under the **Choice** section, as shown on **Figure 10**.

Figure 10: Single Select Question from the Choice Question Type

Choice	
Single select	Multiple select
©⊙ Single select grid	🔛 Dropdown
•• Likert scale	☆ Rating
Ranking	

On the Single select panel, edit the Label, Hint, and Choices options, as shown on Figure 11. The display to the left of the edit panel shows what the question will look like in the survey.

Figure 11: Editing a Single Select Question Type

Evenue la Comoso Tala	^	수 Add	Edit	Appearance	Options
Example Survey little	Г	a . 1			
Description for the example survey		Single se	lect		$\downarrow \uparrow$
		Label	al a f fa a turra de		
1 What kind of feature has the issue?*		What kin	id of feature h	ias the issue?	Ē
Please choose one		Hint	1 <u> </u>		
Sidewalk		B A Please ch	i= := 1=	<u>,</u> = ≪ =	
Bikelane					
		Choices			Batch edit
Trail		Show "Oth	v choices in ra er")	Indom order (exclude
		Sid	ewalk		$\oplus \odot \equiv$
Submit		Bik	elane		⊕⊝≡
		Tra	il		$\oplus \odot \equiv$
		Aller	"Oth ar		



Scrolling down in the edit panel (Figure 12) gives some additional options such as Appearance (how the buttons are laid out), Validation (whether a question is required or not). and Behavior (whether a question is visible). The Behavior section also allows the creation of rules to allow visibility of the question after certain conditions are met. A later example shows how to create a question that is only visible after selecting a Sidewalk feature. At this time, make the question required and visible.

Figure 12: Additional Edit Options

Add	Edit	Appearance	- ≩ Options
Ot			
Appear	ance		
Verti	cal		
	ontal		
Horiz	ontal (compa	ct)	
Validatio	on		
✓ This i	s a required q	uestion	
Behavio	r		
✓ Visib	le 🕐		<u>Set rule</u>

Next, to add an issue description box, click Add in the side panel and select Multiline text as the question option under the Text, number, date, and time section. Figure 13 shows how the question is set up in the edit panel.

Figure 13: Issue Description for a Multiline Text Question Type

Bikelane		•	다 Add	/ Edit	Oppearance	Of	otions
O Trail			Multiline _{Label}	text			${\leftarrow}$
			Please d	escribe the is	sue		Ē
Please describe the issue* Eg: the sidewalk is too narrow; the bike lane does not have proper protection from traffic etc.			Hint B <u>A</u>		E & ⊒		
			Eg: the s does not etc.	idewalk is too : have proper	narrow; the bil protection from	ke lai h traf	ne fic
			Default va Predefin	lue ed answer for	this question		



Next, to add an option to map the location of the issue, click **Add** in the side panel and then click **Map** under the **Location** section. **Figure 14** shows the options panel. Selection options include **Point**, **Line**, or **Area** (polygon). Since only one type of feature (point, line, area) can be mapped for each survey, a separate survey will need to be created if multiple feature types will be mapped.



	*	ہ Add	Edit	O Appearance	Options
		Map			, ↓
		Label			
3 Location of the issue		Locatio	n of the issue		Ē
Click on the map to add a point		Hint			
i c c		в 🔺	EEE	E 🗞 🗄	
Find address or place Federal bive w 55th PI w 55th PI w 55th PI w 55th PI		Click on	the map to ac	dd a point	
W 55th Ave W 55th Ave		Drawing t	ools 🕐		
		Poir	nt 🍳		
		Line	~ ~ ~ ~		
		Are	a M O	27	
Esri, NASA, NGA, USGS, FEMA I Esri, Community Maps Powered by Esri		D Ena	able snapping	0	

Scroll down in the map panel (**Figure 15**) to choose a basemap and default extent for the map in the survey. Search for a specific address, or drag to the location you would like to show on the survey map. The display panel on the left updates to match. Click **Edit** for **Map and extent** to choose a different basemap.

Figure 15: Additional Options for Map Question Type





Finally, you can create additional questions that will show up only when clicking the **Sidewalk** option in the first question using the visibility rules on the edit panel. This powerful feature allows you to design a survey to show different types of questions depending on choices made previously in the survey. It also leads to an easier experience for the survey user because they do not have to skip through unnecessary questions to fill out the question they would like.

This example uses a **Multiline text** question type, but any question type can have custom rules applied to it to limit visibility based on previous answers.

To add the question, click Add and then Multiline text for the question type as in the previous step. For this example, the question will be called **Proposed solution to sidewalk issue**. Scroll down on the edit panel to the **Behavior** section and click **Set rule**, as shown on **Figure 16**.

Figure 16: Set Rule Button under Behavior

Behavior	
✓ Visible ⑦	<u>Set rule</u>
Read-only	

On the **Visibility** rule menu, select the first question (What kind of feature has the issue?), then **is**, and then **Sidewalk**. These options make the question visible only when selecting **Sidewalk** in the first question. Figure 17 shows the selection for reference.

Figure 17: Set Visibility Rules for a Question

Set visibility rule: Proposed solution to sidewalk issue				
Visibility rule 🖹 🗎				
● What kind of feature has the i				
is value ×				
Sidewalk				
Add expression				
Add group				
When the visibility rule is not met:				
Do not submit the answer				
Submit the answer				



After completing these steps, the survey should display as shown on **Figure 18** when selecting the Sidewalk option. You can now add a survey name, title, and description; add new questions; and create visibility rules for questions. **Appendix A** provides a full list of the questions from the Federal Boulevard First/Last Mile Survey.

Figure 18: Survey Results Example

Example Survey Title	Location of the issue Click on the map to add a point
Description for the example survey	Find address or place
What kind of feature has the issue?* Please choose one	+ W Sith Ave W Sith Av
Sidewalk	W S4th Ave
O Bikelane	The second secon
O Trail	Erri, NASA, NGA, USGS, FEMA Erri Community Maps Contributors, County and City of Powered by Er
Please describe the issue*	Proposed solution to sidewalk issue
	Submit



Creating a Survey from a Previous Survey

From the "My Surveys" main page, click the three dots in the lower right corner of the survey you would like to use as a template and when the dropdown appears, select **Save as**, as shown on **Figure 19**. The new survey will have the same design as the template but will start fresh with no results.

Figure 19: Create a New Survey From a Previous Survey

ArcGIS Survey123 🗸	My surveys		
My Surveys + New s	urvey		
My favorites 🔻			
Records: 13 P Federal Blvd First/Last Mile by Nelson.Huffaker_FHU	Site Visit	Records: 126 P Federal Blvd First/Last Mile Site Visit by Nelson.Huffaker_FHU	
/ @ III E ★			
	Settings		
	Edit survey info		
	Save as		
	Delete		

For more information, click Create a Survey.



Managing Your Survey

On the My Surveys page, click on a survey to go to the dashboard for that survey (**Figure 20**). The dashboard page allows you to see an overview of your survey results thus far, to make changes to your survey design, to change the sharing settings, to analyze results, to view and export data, to change the overall survey settings, and to create a link for sharing the survey with participants.

Figure 20: Sample Survey Dashboard Page for an Existing Survey



Testing the Survey Tool on Mobile or Desktop

To ensure that the survey opens in a browser on mobile and desktop, click on **Collaborate** on the survey dashboard. Then in the **Share Survey** section, select **Open the survey in browser directly**, as shown on **Figure 21**.

Figure 21: Settings to Ensure the Survey Opens in a Browser

Share this survey	Link			
	https://arcg.is/1jv1uT			
	• Open the survey in browser directly			
	Ask the user how to open the survey, in b	rowser or in the Survey123 field app		
	Open the survey in the Survey123 field ap	op directly. (Learn more about this option)		



Go to the generated survey link or QR code to open the survey and create submissions for testing purposes. The link and QR code to the survey will look as show on **Figure 22**. To access the link for testing or sharing, click the **Share** button on the survey dashboard. A specific link and QR code for the survey display. Use either for testing or sharing with survey participants. *Note: The survey must be published for a sharing link to be generated*.

Figure 22: Survey Link, QR Code, and Share Button



Changing Permissions for Sharing the Survey

To change permissions to allow others to participate in the survey, click on **Collaborate** on the survey dashboard. Under the **Share Survey** section, select who you would like to allow under the **Who can submit to this survey**? question. Choices include everyone (public) or only members of your organization or specific groups. **Figure 23** displays the choices.

Figure 23: Survey Permissions

Who can submit to this survey?	✓ Everyone (public)
	Members of my organization (Felsburg Holt & Ullevig)
	Members of the following groups:
	CDOT Details

For more information, click <u>Complete and Submit Survey</u>.



Viewing Outputs from the Survey Tool

Data collected from the survey tool automatically populates on the **Analyze** tab on the survey dashboard within the Survey 123 website where it can be analyzed in various ways (**Figure 24**).

Figure 24: Word Cloud Created for Survey Question Results on the Analyze Tab

Federal Blvd First/Last Mile Site Visit Point Features V2	🖉 Overview Design Collaborate 🤇 Analyze Data Settings <
on 📑 Print current view	
∞ ×	мізисіси, тео окруси, о
	Issue Description • Word cloud
provements	neutry thopping Clear place road. Clay narrow Societ intersection sign with participated there walking moving intersection sign for walk process will be clear the societ intersection sign with participated there walking conserve bases will be clear the societ intersection sign will be used to be an antipate the societ intersection sign will be used to be an antipate to be an antipate to be an antipate to be an antipated to be an antipate to be an antipated to be antipated to be anot
	Hide table
	Word Count

As shown on Figure 25, results also automatically populate on ArcGIS Online using the same account information used to login to Survey 123.

Figure 25: Feature Layer Automatically Created in ArcGIS Online from Survey Results

Q Search Survey-Federal Blvd First/Last Mile Site Visit Point Features V2					
	1-4 of 4			Table	= Date modified
Titl	e 🗸 🗸		Modified 👻		
	Federal Blvd First/Last Mile Site Visit Point Features V 2	ලි Form	Jan 16, 2025	۲	Preview
	Federal Blvd First/Last Mile Site Visit Point Features V 2	🧏 Feature Layer (hosted)	Nov 22, 2024	٢	Preview

Additionally, data can be exported as a spreadsheet or GIS data such as a shapefile or geodatabase on the **Data** tab on the survey dashboard, as shown on **Figure 26**. For more information about analyzing data from Survey 123, click <u>Analyze Survey Data</u>.

Figure 26: Export Options on the Data Tab

ArcGIS	Survey123 • My survey	ſS				🥐 🔘 Nelson 🗸
Federa	l Blvd First/Last Mile Site \	√isit Point Features V2	/	Overview Desi	gn Collaborate Analyze	Data Settings <
■ C	- 1/20/25 🏹 Filter Repo	ort Export • Open in Map	Viewer Form view			
+ -	ver, County of Arapshoe, Esri, TornTorn	Selected records only CSV Ga Excel	D Para Contraction of the contra		3	June
Federal Blvd First/Last Mil.		KML				
🖞 EditDate 🛛 👻 🚥	Name	Cc Shapefile	• Type (Point 🛊 🚥	Other - Issue Typ + …	Issue Description 💠 🚥	Pedestrian Netw 🛊 🚥
1/25/2024, 6:39 PM	John Marcantonio	File Geodatabase	lock Crossing Desig		Lacks midblock crossing i	
1/25/2024, 6:38 PM	τJ		Mid-Block Crossing Desig		Long gap between lights (
1/25/2024, 6:38 PM	John Marcantonio		Mid-Block Crossing Desig		Lacks midblock crossing i	
1/22/2024, 8:38 PM	τJ		Pedestrian Network Barrier		Missing sidewalk	
1/22/2024, 8:38 PM	John Marcantonio		Bike/Micromobility Parkin		Insufficient bike parking/p	
1/22/2024, 8:38 PM	LT		High Vehicle Speeds		Wide lanes leading to fast	



Creating Webmaps from Survey Data

Data submitted from surveys is hosted on your ArcGIS Online account in the form of "Feature Layers" (points/lines/polygons) and a "Form" (the survey form), as shown on **Figure 27**.

Figure 27: Data Created on ArcGIS Online from Survey 123



Once the data is hosted on ArcGIS Online, webmaps can be created to display the data in an interactive format that can be explored by anyone who has a link to the webmap. An example of some results mapped in a webmap can be found <u>here</u> and on **Figure 28**.



Figure 28: Data Created in Survey 123 in a Webmap



To create a webmap in ArcGIS Online, click on a Feature Layer and add it to a new map using the dropdown arrow on the right side of the **Open in Map Viewer Classic** button shown on **Figure 29**.

Figure 29: Dropdown Menu for Creating Maps From a Feature Layer in ArcGIS Online

(Open in Map Viewer Classic	~
	Open in Map Viewer	
	Add to new map	
	Add to new map with full editin	ig control
	Publish 🗸	

For more information, click Share Your Survey Data.

Opening an Existing Survey Using ArcGIS Survey 123 Connect App

Currently, to transfer a survey from one account to another, a standalone app called ArcGIS Survey 123 Connect must be used. This application can be downloaded from the <u>Microsoft Store</u>. Note: Transferring the survey to the app disables the ability to edit the survey in the web designer on survey123.arcgis.com. All future edits to the transferred survey must be made in the Survey 123 Connect app, although survey results will still show up on the survey dashboard and on ArcGIS Online.

Open the Survey 123 Connect app, click the hamburger button, and sign in as shown on Figure 30.

Figure 30: Sign in on Survey 123 Connect App





To open a survey from another account, the other account user must download the survey to a .xlsx file and send that to you. Click the cloud icon on a survey from the Survey123 Connect app main page, as shown on **Figure 31**.

Figure 31: Survey Download Button in Survey 123 Connect

and a second state	and the	5
1 1	II - N	11 .
a ministra	1 1 1 4	1 - 1
and and a		1
anjuna 🔫		1.
weighter .		11.
no tes Indexes factor	- M - ALM - ALM -	1-11
and the second	\$ contained	1 ;
Alexand and a	1.111	F : 145%
Foder	Dlud	
Federa	al bivo	0
First/Las	+ Milo	-1-
I II SU Las	tivine.	• •

Once the survey is downloaded, a .xlsx file will be generated on the user's hard drive containing the survey and this can be shared to be opened on another account. To open the .xlsx file containing the survey on a new account, click the **+ New survey** button, as shown on **Figure 32**), and then select the **Create a new survey from file** option to open the .xlsx file, as shown on **Figure 33**.

Figure 32: + New Survey Button in Survey 123 Connect





Figure 33: File Option under the New Survey Button in Survey 123 Connect

🔝 New Survey - ArcGIS Su	rvey123 Connect	×
	New Survey	
Title		
Form 1		\otimes
Create a new su	irvey from:	
O Blank	XLSForm file	
File	Select XLSForm file	
Organization		P Select

From here, you can edit and publish the survey. However, the workflow has some differences from that of the Survey 123 web designer discussed previously. Although the workflow is not as user-friendly as that of the web designer, the Survey 123 Connect app allows much more customization of surveys, if desired. For full documentation on how to create, manage, edit, and publish surveys in the Survey 123 Connect app, click Survey 123 Beginner's Workflow.



Appendix A. Federal FLM Point Survey Questions

Below is the full list of questions that make up the Federal Blvd First/Last Mile Site Visit Point Survey. The list is organized into global questions (always visible) and the Issue Type categories and the questions visible based on the selection of those categories. The question type as categorized in Survey 123 is also listed, along with whether the question is required.

Global Questions/Sections

- Survey Header
 - CDOT Logo Image
- Survey Description
- Name (Question type: Singleline text, required)
 - For entering survey participant's name
- Issue Type (Question type: Single select, required)
 - The Issue Types that should be added include:
 - Pedestrian Network Barrier
 - Intersection Design/Safety Issue
 - Sidewalk Gap
 - Trail Gap
 - Frequent Curb Cuts
 - Mid-Block Crossing Design/Safety Issue
 - High Vehicle Speeds
 - Lighting and Visibility Issue
 - Existing Bike Facilities: Intersection Design/Safety Issue
 - Bike/Micromobility Parking Issue
 - Green Infrastructure or Streetscape Issue
 - Shared Mobility Services: Microtransit
 - Shared Mobility Services: Micromobility (Scooter and Bike Share) Issue
 - Connectivity Issue to Other Transit Routes and Services
 - Other
 - Note: Unique subcategories should be added under each Issue Type. These are provided in the **Subcategories for Issue Type** section.
- Issue Location Map (Question type: Map, required)
- Issue Description (Question type: Multiline text, required)
- Issue Photos 1-5 (Question type: Image)
 - Users can take/upload photos of the observed issue



Subcategories for Issue Type

Each Issue Type should include unique follow-up questions (detailed below). All subcategories are visible only if selecting the main category. **Issues Observed** and **Recommended Improvements** questions were left as optional as they are a supplement to the required global **Issue Description** question.

Subcategories for Issue Type: Pedestrian Network Barrier

- Description (Question type: Note)
 - Identify other barriers in the pedestrian network that may impede first/last mile accessibility
- Issues Observed (Question type: Multiline text)
- Recommended Improvements (Question type: Multiline text)

Subcategories for Issue Type: Intersection Design/Safety Issue

- Description (Question type: Note)
 - Identify safety deficiencies at intersections that could be mitigated to improve first/last mile accessibility
- Issues Observed (Question type: Multiple select)
 - Traffic Signal and crosswalk timing
 - Infrastructure (curb ramps, curb radii, medians, crosswalks and other striping, etc.)
 - Sightlines/Visibility
 - Other
 - Allow "Other" Add a text description (select this box to add text details)
- Recommended Improvements (Question type: Multiple select)
 - Signal timing adjustment to increase leading pedestrian interval
 - High visibility crosswalk striping
 - Median extensions and pedestrian islands
 - Reduced curb radii
 - ADA compliant curb ramps
 - Intersection daylighting
 - Other
 - Allow "Other" Add a text description (select this box to add text details)



Subcategories for Issue Type: Sidewalk Gap

- Description (Question type: Note)
 - Identify deficiencies and gaps in the existing sidewalk network that may form first/mile accessibility barriers for those walking or rolling
- Issues Observed (Question type: Multiple select)
 - Gap in sidewalk
 - Other
 - Allow "Other" Add a text description (select this box to add text details)
- Recommended Improvements (Question type: Multiple select)
 - Fill sidewalk gap
 - Other
 - Allow "Other" Add a text description (select this box to add text details)

Subcategories for Issue Type: Trail Gap

- Description (Question type: Note)
 - Identify deficiencies and gaps in the existing trail network that may form first/mile accessibility barriers for those walking, rolling, or biking on trails.
- Issues Observed (Question type: Multiple select)
 - Gap in trail
 - Other
 - Allow "Other" Add a text description (select this box to add text details)
- Recommended Improvements (Question type: Multiple select)
 - Fill trail gap
 - Other
 - Allow "Other" Add a text description (select this box to add text details)

Subcategories for Issue Type: Frequent Curb Cuts

- Description (Question type: Note)
 - Identify areas of the network with frequent or poorly designed curb cuts that may form first/mile accessibility barriers for those walking, rolling, or using mobility devices
- Issues Observed (Question type: Multiline text)
- Recommended Improvements (Question type: Multiple select)
 - Close driveway
 - Consolidate existing curb cuts
 - Narrow curb cut distance
 - Other
 - Allow "Other" Add a text description (select this box to add text details)



Subcategories for Issue Type: Mid-Block Crossing Design/Safety Issue

- Description (Question type: Note)
 - Identify safety deficiencies at mid-block crossings that could be mitigated to improve first/last mile accessibility.
- Issues Observed (Question type: Multiple select)
 - Signal and crosswalk timing (if signalized)
 - Infrastructure (curb ramps, curb radii, medians, crosswalks and other striping, etc.)
 - Sightlines/Visibility
 - Other
 - Allow "Other" Add a text description (select this box to add text details)
- Recommended Improvements (Question type: Multiple select)
 - RRFB or HAWK signal
 - High visibility crosswalk striping
 - Median extensions and pedestrian islands
 - Reduced pedestrian crossing distance through lane narrowing, dedicated turn lane removal, or bulb-outs
 - ADA compliant curb ramps
 - Daylighting
 - Other
 - Allow "Other" Add a text description (select this box to add text details)

Subcategories for Issue Type: High Vehicle Speeds

- Description (Question type: Note)
 - Identify areas that are unsafe due to high vehicle speeds that may be mitigated with traffic calming or other design improvements
- Issues Observed (Question type: Multiple select)
 - Current speed limit
 - Observed vehicle speeds
 - Existing design elements to limit speeds (speed humps, chicanes, etc.)
 - Other
 - Allow "Other" Add a text description (select this box to add text details)
- Recommended Improvements (Question type: Multiple select)
 - Traffic calming elements (speed humps, chicanes, pinch points, diverters, other)
 - Cross-section modification (travel lane narrowing, travel lane removal, other)
 - Other
 - Allow "Other" Add a text description (select this box to add text details)



Subcategories for Issue Type: Lighting and Visibility Issue

- Description (Question type: Note)
 - Identify current lighting and visibility issues that may lead to safety concerns within the walkshed area, and recommend improvements to address these safety concerns
- Issues Observed (Question type: Multiline text)
- Recommended Improvements (Question type: Multiple select)
 - New streetlighting
 - Improvements to existing streetlighting
 - Other
 - Allow "Other" Add a text description (select this box to add text details)

Subcategories for Issue Type: Existing Bike Facilities: Intersection Design/Safety Issue

- Description (Question type: Note)
 - Identify existing bike facility safety issues at intersections that may impede first/last mile accessibility for bicyclists and micromobility users
- Issues Observed (Question type: Multiple select)
 - Existing bikeway design at intersection
 - Existing bikeway/intersection safety elements
 - Other
 - Allow "Other" Add a text description (select this box to add text details)
- Recommended Improvements (Question type: Multiple select)
 - Intersection geometry modifications to allow bike lanes to continue through intersection
 - Bike conflict markings through the intersection
 - Bike boxes at intersection
 - Dedicated bike signal phase and/or right turn restrictions
 - Other
 - Allow "Other" Add a text description (select this box to add text details)



Subcategories for Issue Type: Bike/Micromobility Parking Issue

- Description (Question type: Note)
 - Identify existing bike and micromobility parking in the walkshed and at key destinations that may benefit first/last mile accessibility
- Issues Observed (Question type: Multiple select)
 - Existing quality and condition
 - Bike rack design does not allow for secure locking (bikes not locked up properly, locked bikes blocking spaces, evidence of tampering/theft, etc.)
 - Insufficient bike parking
 - Other
 - Allow "Other" Add a text description (select this box to add text details)
 - Recommended Improvements (Question type: Multiple select)
 - New or additional bike/micromobility parking
 - Improvements to existing bike/micromobility parking
 - Other
 - Allow "Other" Add a text description (select this box to add text details)

Subcategories for Issue Type: Green Infrastructure or Streetscape Issue

- Description (Question type: Note)
 - Identify green infrastructure and streetscape elements that either exist today or could be added to improve the first/last mile experience within the walkshed
- Issues Observed (Question type: Multiple select)
 - Lack of existing tree canopy and street shade
 - Lack of existing streetscape amenities (benches, wayfinding signage, etc.)
 - Other
 - Allow "Other" Add a text description (select this box to add text details)
- Recommended Improvements (Question type: Multiple select)
 - Tree canopy and other street shade improvements
 - New streetscape amenities
 - Improvements to streetscape amenities.
 - Other
 - Allow "Other" Add a text description (select this box to add text details)

Subcategories for Issue Type: Shared Mobility Services: Microtransit

- Description (Question type: Note)
 - Microtransit is an app-enabled transit service that typically uses multi-passenger/pooled shuttles or vans to provide on-demand or fixed-schedule services. Conduct a desktop analysis and field observations to understand if a microtransit service is currently operating within the walkshed site area or near the walkshed site area (and if a microtransit service is operating, how effective it currently is).
- Issues Observed (Question type: Multiple select)
 - A microtransit service operates nearby but does not currently serve this station area walkshed
 - The existing shared mobility service within the walkshed does not currently meet community needs (insufficient service hours, insufficient service to key destinations, unreliable service, unaffordable costs etc.)
 - Other
 - Allow "Other" Add a text description (select this box to add text details)
- Recommended Improvements (Question type: Multiple select)
 - Expand existing microtransit program service area to serve the station area walkshed
 - Modify existing microtransit program to better meet community needs
 - Other
 - Allow "Other" Add a text description (select this box to add text details)

Subcategories for Issue Type: Shared Mobility Services: Micromobility (Scooter and Bike Share) Issue

- Description (Question type: Note)
 - Conduct a desktop analysis and field observations to understand if a micromobility service is currently operating within the walkshed site area or near the walkshed site area (and if a micromobility service is operating, how effective it currently is)
- Issues Observed (Question type: Multiple select)
 - A nearby micromobility service does not currently serve this walkshed
 - The current micromobility service that serves this walkshed does not have a sufficient level of vehicles (shared scooters or bikes) to meet demand
 - There are insufficient parking locations for micromobility vehicles in the walkshed
 - Micromobility vehicles are being parked improperly and blocking sidewalks, trails, etc.
 - Micromobility vehicles are being ridden on sidewalks or other areas they are not permitted
 - Other
 - Allow "Other" Add a text description (select this box to add text details)
- Recommended Improvements (Question type: Multiple select)
 - Expand existing micromobility program to serve the station area walkshed
 - Improve micromobility vehicle availability
 - Improve/expand designated micromobility parking locations
 - Improve bike/micromobility facilities to reduce sidewalk riding.
 - Other
 - Allow "Other" Add a text description (select this box to add text details)



Subcategories for Issue Type: Connectivity Issue to Other Transit Routes and Services

- Description (Question type: Note)
- Issues Observed (Question type: Multiple select)
 - Long distances or indirect connections when transferring between bus routes or rail lines
 - Transit wayfinding signage missing
 - Transit stop quality/amenities (for stops/routes that are not already being upgraded as part of the BRT project)
 - Other
 - Allow "Other" Add a text description (select this box to add text details)
- Recommended Improvements (Question type: Multiple select)
 - Improve connectivity between bus routes or rail lines
 - Improve transit service wayfinding
 - Improve transit stop amenities (for stops/routes that are not already being upgraded as part of the BRT project)
 - Other
 - Allow "Other" Add a text description (select this box to add text details)

Subcategories for Issue Type: Other

- Description (Question type: Note)
 - Identify any other key elements or considerations within the walkshed that do not fit into the other categories
- Issues Observed (Question type: Multiline text)
- Recommended Improvements (Question type: Multiline text)