

# MPPDC-OIPI TRANSPORTATION NEEDS SCREENING TOOL USER GUIDE



# MPPDC-OIPI – TRANSPORTATION NEEDS SCREENING TOOL USER GUIDE

## ACKNOWLEDGMENTS

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## ABOUT GAP-TA

Visit [vtrans.org/about/GAP-TA](https://vtrans.org/about/GAP-TA) for information about the Growth and Accessibility Planning Technical Assistance program.

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# TOOL OVERVIEW AND USES

The MPPDC has developed a transportation project identification and screening process that will identify projects and locations that will best advance local and state priorities for the maintenance and improvements of the region’s transportation system. The core principle of the process is to use data about existing conditions on the road network to identify locations with high transportation needs. These locations are where transportation investments are most likely to improve performance and qualify for external funding.

The screening tool will provide the MPPDC and its local partners with better information to support funding program applications and address regional transportation needs. The tool can be used to assess existing Long-Range Transportation Plan projects, inform project development to ensure that projects put forward for funding consideration are as strong as possible, or to identify locations for new transportation investments.

The tool can be used to produce two key outcomes on a regular and consistent basis:

1. Validate Projects and Anecdotal Needs – Recommendations for funding opportunities that can be incorporated into the Long-Range Transportation Plan that are suggested or requested by local elected officials or local government staff based on local anecdotal knowledge; and
2. Screen for New Project Locations – Screening analysis of GIS data to identify prospective maintenance and improvement project locations and recommendations for external funding sources that could be pursued to implement solutions at those identified locations.

The basic steps of each use case are outlined in the figures below. More detailed instructions to use the tool for each are found later in this document.

Figure 1 Process to Validate Projects and Anecdotal Needs

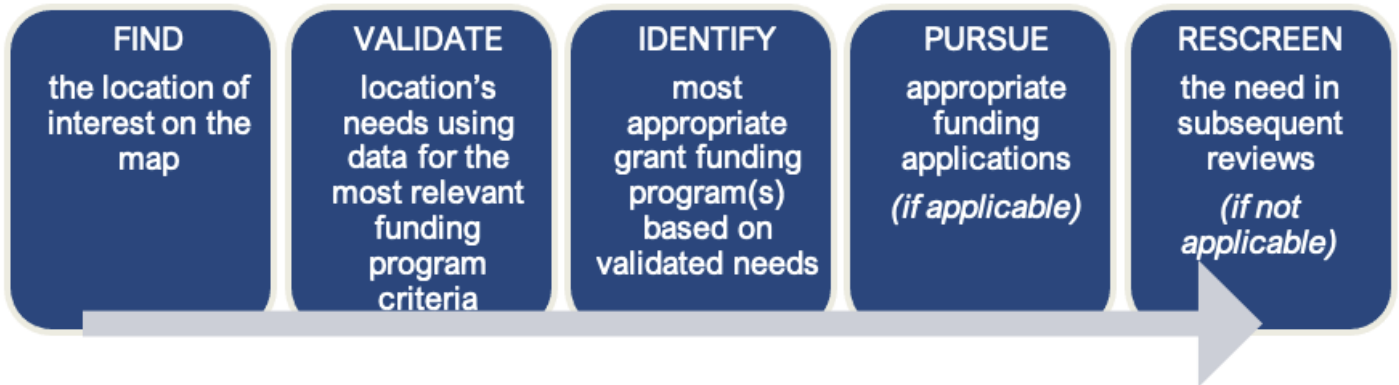
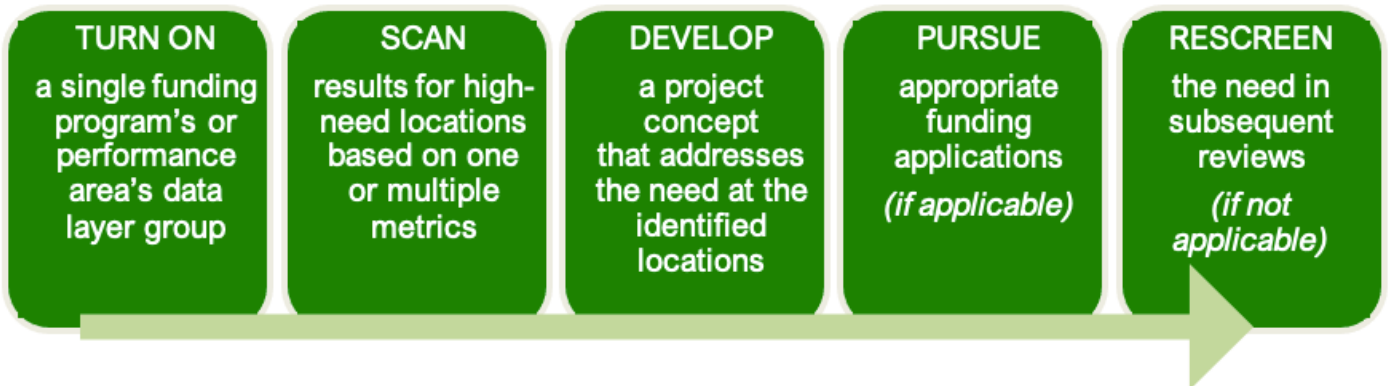


Figure 2 Process to Screen for New Project Locations



## Background & Criteria Development

The MPPDC identified criteria for the screening process based on an extensive review of the scoring and eligibility criteria applied across major transportation funding programs in Virginia. Criteria that were location-based—those that describe the network locations rather than specifics about a proposed project—were drafted for consideration as network screening criteria.

Screening criteria for this process are not tied directly to specific funding programs. Rather, they were inspired by the basic metric definitions a transportation project would need to successfully align with statewide goals. MPPDC used the core component of these metrics for criteria, not specific calculations or definitions that are likely to be changed over time. The final form of each criterion was determined based on:

- Relation to success in major funding programs
- Alignment with regional long-range plan goals
- Data availability
- Ease of maintenance

The refined list of criteria was presented to the region's local planners in November 2021 and input sought for adjustments to the criteria proposed or additional criteria of interest. Local planners were again engaged to review and provide input on the initial mapping of the criteria and proposed application of the tool.

## State Alignment

VTrans Need Location

## Safety

Historic Safety Crashes Equivalent Property Damage Only (EPDO)  
History of Bike-Ped Crashes

## Multimodal Access

Multimodal Access: Location provides access to sidewalks, trails, transit stops, park and rides

## Economic Development

Average Daily Traffic  
Truck Average Daily Traffic  
Qualified Opportunity Zone

## Truck Volumes

Public Working Waterfronts

## Resilience

VTrans Vulnerability  
Evacuation Route

## Equity

Equity Emphasis Area  
Social Vulnerability (Adapt VA)  
Median Income

## Preservation

VDOT Asset Condition

## Data Layers Overview

The screening tool includes 21 unique spatial data layers for metrics related to scoring criteria for different transportation funding programs available to the MPPDC. Layers are combined into 15 different funding program groupings, which include only the data layers relevant to the scoring for that funding program. Many layers are relevant to multiple funding programs, in which case layers are duplicated so they are present in each relevant funding group.

Along with these funding program groups are a group for projects included in MPPDC's 2045 Long Range Plan and a group for VTrans needs locations. The Screening Tool also includes an "All Layers" grouping, which has all 21 individual data layers for additional exploration.

Details related to updating the screening tool with more recent or new data, or creating a new grouping, can be found in the Screening Metrics Documentation.

### Data Layer Summary

Groupings of data layers include the following:

1. **Funding Program Groups** – Include only layers relevant to each of the 15 funding programs' scoring
2. **LRTP Project Group** – Includes locations and descriptions of projects listed in MPPDC's 2045 Long Range Plan
3. **VTrans Needs Group** – Includes all road segments in the Middle Peninsula region found to have a need according to the VTrans mid-term needs 2021 assessment
4. **All Layers** – A group that includes each data layer individually to allow users to turn on a single layer for additional context while exploring funding programs or building a project narrative

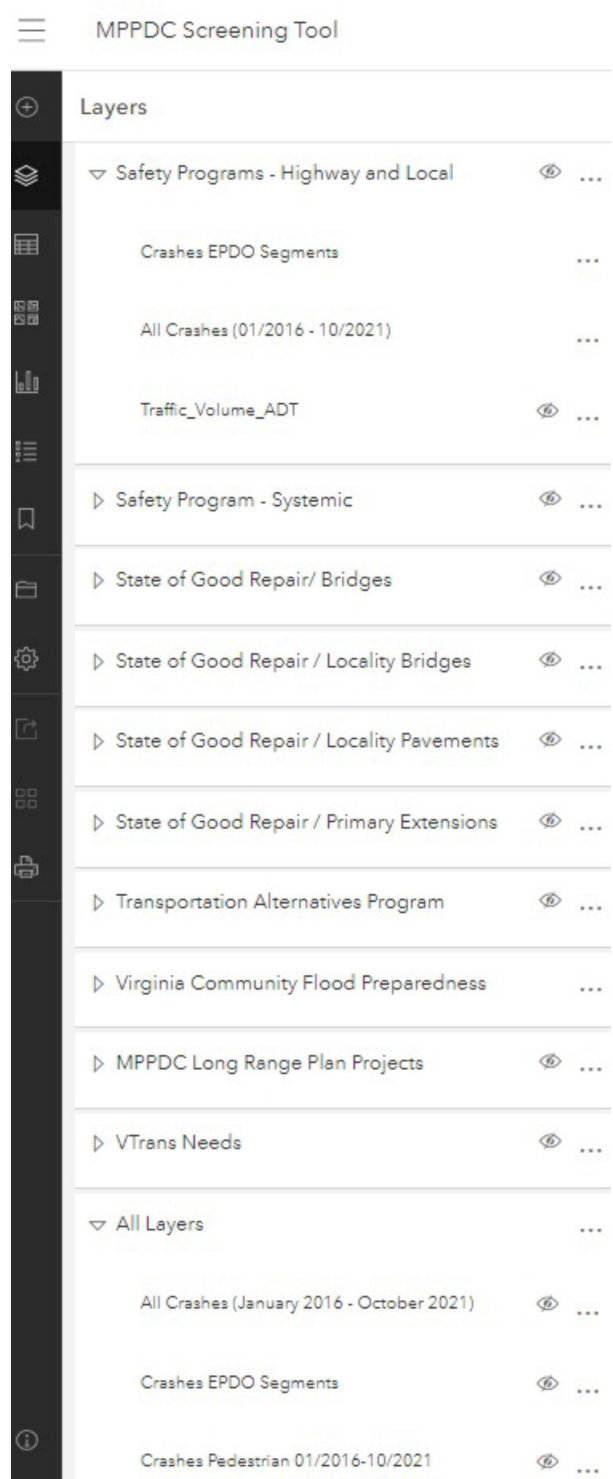
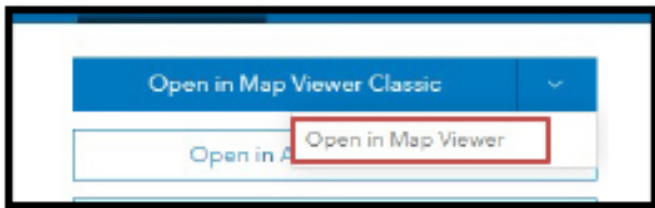


Figure 3 List of layer groupings from the MPPDC Transportation Needs Screening Tool

## Operating the Tool

The tool is hosted by MPPDC on its ArcGIS Online webpage and can be accessed at the below link. The map should be viewed using "Map Viewer," not "Map Viewer Classic."

<https://mppdc.maps.arcgis.com/apps/mapviewer/index.html?webmap=bb40c02144894640b7648645cd45bfee>

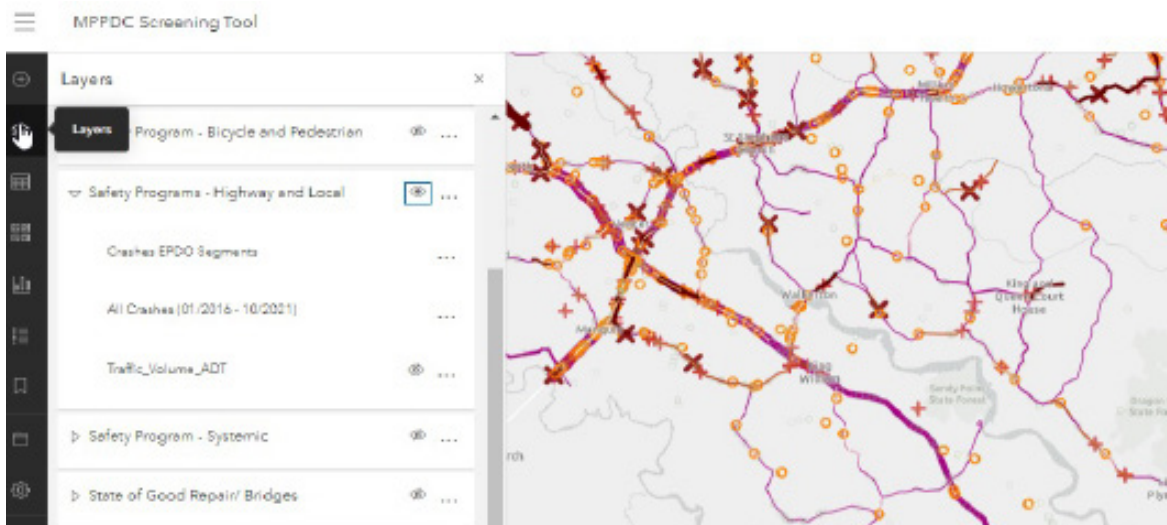


## Toggling Layers

All the layer groupings can be accessed by selecting the "Layers" option from the menu on the left side of map, as shown in on the previous page. Users can toggle groupings and individual layers on and off by clicking on the "eye" icon next to the grouping or individual layer of interest. This visibility control exists at the group level and at the individual layer level. For a layer to be visible, both icons must be set to "visible."

Because there are so many layers on the map, it is recommended to only turn on one group at a time. Individual layers can be added from the "All Layers" group if additional context is desired in a certain performance area.

Figure 4 Navigating to the "Layers" menu allows users to toggle layers and layer groups on and off by clicking the "eye" icons



## Layer Information and Editing

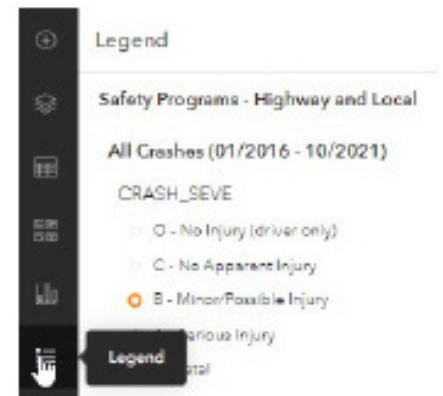
More details about each layer can be found from menus on the right and left of the map, and users can change the data attribute displayed, values by attribute, and visualizations (symbolology) of data attributes.

**Legend** – First, users can access the "Legend" from the main menu, shown in Figure 5, to see which attribute is being visualized in each layer in a given group, as well as what each of the different symbols represents.

**Properties** – Across from the menu on the left is another set of menu options along the right side of the map. The top option on this right-hand menu is "Properties," from which users can find out the original source for each layer, symbology, transparency settings, visible range (which dictates the zoom level at which a layer becomes visible), display order, and any custom parameters applied to the layer.

**Styles** – Second from the top is the "Styles" option, from which users can select a data layer to view the visual symbols on the map, similar to the information found via the Legend tab. Within each session, users can also use this tab to change

Figure 5 An example of the legend for a data layer.

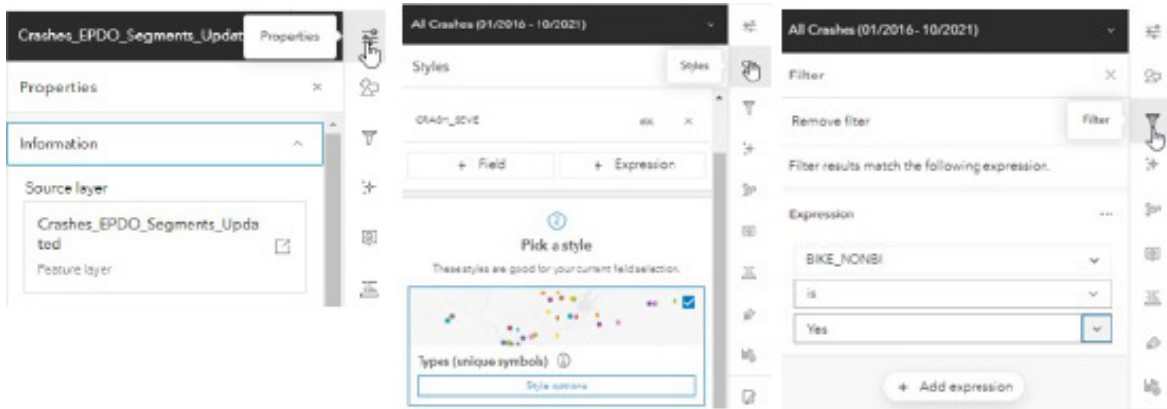


the visualization of data on the map. By selecting a layer and then a layer attribute, it is possible to tailor the view to what is of most interest to the user. Note that changes to styles will not be saved if you are not logged into an ArcGIS account and will only be available for the current session.

**Filters** – Within a session, users can filter the data shown on the map for any attribute in any layer by selecting

“Filter” from the right-side menu and “Add Expression.” For example, if all crashes are shown on the map but a user only wants to see crashes involving bicycles, the filtering tool will allow them to filter for “Bike\_NonBike is Yes”, and only bicycle crashes will populate on the map. Just as with style changes, filtering will not be saved to future sessions unless users are logged into an ArcGIS account. Figure 6 illustrates these steps.

Figure 6 Menu navigation to Properties, Styles, and Filter to look up information and make changes to map layers



## Use Case 1: Validate Projects and Anecdotal Needs

The first primary use of the tool is to validate whether needs exist at a particular location, such as locations reported anecdotally as problematic by community members, or project concepts already developed, such as those in the long-range transportation plan. The Screening Tool can also help planners develop or refine projects to better meet one or more local needs at identified locations.

High-level steps in conducting this validation include:

**Step 1: Find the Location.** Zoom to the area of interest on the map. Check to see if there is a project concept or VTrans Need at the location already.

**Step 2: Validate Needs.** If the nature of the need is known (e.g., safety, truck capacity issues, flooding) based on reported issues or the type of project proposed at a location, turn on layer groups for the relevant funding program. For example, if there is a flooding issue, look at criteria for the Virginia Community Flood Preparedness program; if there is a pedestrian safety concern, look at the Bicycle and Pedestrian Safety program.

In addition to looking at funding groups, users should explore additional layers that could add to the overall

narrative of an application, even if that metric does not directly earn points for a given program. For example, when assessing locations for the Virginia Community Flood Preparedness program, users can also look at pavement and bridge condition, since infrastructure in poor condition may need an update anyway and make a better case for improvements that also include flood resilience. This also provides opportunity to combine funding sources, if looking at funding programs that allow this.

If there is uncertainty around the exact nature of needs, screening tool users can toggle each of the grouped program data layers on and off to visually identify which programs’ criteria align most closely with the identified need or project location.

**Step 3: Adjust and Document Project to Match Needs.** If a project concept exists and the data at the location indicates that other or additional needs exist at the project location, work with MPPDC staff, VDOT engineers, and other regional stakeholders to adjust the project to better meet the data-supported needs at the location. If it is a new project brought up by anecdotes of need at a location, document the location with a new bookmark directly on the map, in a spreadsheet or other list for further development into a project concept.

**Step 4: Select Funding Program.** Once a project narrative is built for a location, work with MPPDC staff to identify the funding program(s) that will be needed to implement the transportation improvement. A companion to this tool is a spreadsheet compendium of scoring metrics—including those not represented in the tool—for the major funding programs covered. Explore other requirements and scoring criteria here and in full program documentation to determine what other information will be needed for an application.

**Step 5a: Pursue Funding Application.** Work with the MPPDC, local officials, and if applicable Virginia Department of Transportation engineers to develop the project concept in line with the data-supported needs in the tool. After a concept is developed and any necessary studies completed, applications for funding can move forward.

**Step 5b: Revisit and Rescreen.** If the location is not eligible or competitive for a particular funding program, it can remain in the candidate project pool to see if needs shift in future review cycles.

## Use Case 2: Screen for New Project Locations

The second major use case is to screen the entire system on a single data layer or program grouping to find new, promising locations for projects and future funding applications. This might be appropriate if a call for projects or notice of funding opportunity is released for a specific funding program.

To directly compare how multiple locations compare to each other based on the criteria for a specific program, please refer to the “Scoring and Comparing Projects” section.

High-level steps in conducting this screening include:

**Step 1: Turn on Layer Group.** Click the “eye” icon for the layer group corresponding to the funding program of interest to make relevant data layers visible in the map. Remember that individual layers can be made visible or invisible even if the group is turned to visible.

**Step 2: Scan Results.** To identify potential new project locations for funding programs, toggle the grouped program data layers on and off to visually identify candidate locations based on the map. Each grouped program data layer is symbolized so that areas that may be well-suited for a particular funding program are more dramatically visualized on the map. Users can

further filter relevant layer attributes or change the visual symbology to make these locations even easier to identify.

Zoom into locations that appear promising for closer examination. Confirm that the data underlying the presumed need is at the right location for a project to be considered (e.g., not on a neighboring road, or an ineligible location). Turn on additional data layers to screen related needs and build a robust project narrative. Record the locations confirmed to have high needs across one or more criteria. If projects are to be compared directly, quantitative results on relevant metrics can be recorded in an accompanying scoring spreadsheet to rank all strong projects (refer to the “Scoring and Comparing Projects” section below for more details on scoring and comparing projects).

**Step 3: Document Locations of Interest.** High-need or other locations of interest can be documented in a simple list, in a spreadsheet to be used in later scoring, or by creating bookmarks in the map directly. Bookmarks will be saved only if a user is logged into an ESRI account and saves their own version of the map.

**Step 4: Develop Project Concepts.** Once strong locations have been identified, an initial project concept can be developed and submitted for inclusion in the next update to the long-range transportation plan.

**Step 5a: Pursue Funding Application.** Work with the MPPDC, local officials, and if applicable Virginia Department of Transportation engineers to further develop the project concept in line with the data-supported needs in the tool, complete any necessary studies, and gather additional data and project impacts needed for applications.

**Step 5b: Revisit and Rescreen.** If the location is not eligible or competitive for a particular funding program, it can remain in the candidate project pool to see if needs shift in future review cycles.

## Score and Compare Projects

While the primary intention for the tool is to enable MPPDC staff and partners to explore data-supported transportation needs informally, it can also be used to quantitatively compare projects and locations across relevant metrics. The following section provides step-by-step guidance to record data for candidate project locations into a scoring spreadsheet to directly compare all candidate project locations against one another.

The scoring spreadsheet uses the values across the tool criteria to assign scores ranging from 0 to 3 on each

parameter. The combination of individual parameter scores then produce an overall score for each project location, which can result in a prioritized list of project locations both overall (across all tool criteria) and by funding program (select criteria only).

Note that the MPPDC does not intend to make quantified prioritization of projects a required element of this screening process. Scoring and prioritizing locations is an additional step available to inform the project development process if desired by users.

## Record Data Values

The first major component of this process is to record criteria values for each location under examination. This is a manual process in which users navigate through the map and its layers to identify a location's score on each criterion of interest and record the values in a scoring spreadsheet.

**Step 1: Find and click the 'Layers' icon.** The 'Layers' icon can be found on the left side of the webpage, second icon from the top.

**Step 2: Identify the layer group containing the information required.** Clicking the dropdown arrow to the left of the layer group name shows the data layers in each group. If only one or a few funding programs are of interest for a location, only those groups need to be explored. If a general score is desired across all criteria, it is best to use the "All Layers" group to go through each of the criteria.

**Step 3: Identify and zoom into the location of the project being evaluated.** Clicking the 'Eye' icon toggles on and off each data layer in the map, which may be required to ensure the correct overlapping location between project layer and data layer. Ensure the correct layer has been selected by zooming into the desired location. A closer zoom makes navigating attributes and recording data values easier.

**Step 4: Click the map element that overlaps the project location.** Clicking the item opens a dialogue box containing the data of the overlaid dataset. When selecting on the map, multiple layers can be captured in the selection. Move between the layers until finding the correct one by clicking the arrows at the bottom of the dialogue box, as shown in Figure 7. A statement like "1 of X" indicate which layer in the selection is currently displayed (first number) and how many layers total are in the current selection (second number).

**Step 5: Record criteria values into the Raw**

## Values tab of the MPPDC Scoring Matrix

**Spreadsheet.** The base of the scoring process is the table on the 'All Projects - Criteria Values' tab, which contains a row for every project or location under consideration and columns for each criterion. In this table, record the metric values (e.g., equivalent property damage only [EPDO] value, average daily traffic [ADT] numbers, "Yes" or "No" for binary criteria, etc.) for each criterion at each location. New projects and locations can be added to the bottom of the table, which will be automatically incorporated into the formal table and available to associated pivot tables and calculations.

## Score and Compare Projects

Once values for all criteria are recorded, it is possible to develop a summary score for each project, either as an overall score across all criteria or scores tailored to a particular funding program. Summary scores were developed by constraining the raw data values within each criterion to a common scale of 0 to 3.

**Step 1: Convert raw values from data collection results to criteria-specific scores.** Within each criterion, final scores from 0 to 3 are assigned based on raw data values. Binary criteria are assigned a 3 for yes or 0 for no. Categorical criteria is assigned from 0 to 3 in ascending order. Continuous variables, such as the 'Estimated Truck ADT' and 'Sum of EPDO Calculations', are normalized to either the regional maximum (Truck ADT) or to defined percentiles and constrained to no more than 3 points (EPDO). See accompanying explanation of details for determining each criterion's score in the appendix.

**Step 2: Sum applicable criteria for each funding program or criteria group of interest.** Each funding program has a defined criteria group that aligns with the criteria that supports success in that funding program. Criteria that contribute direct points in a program's scoring rubric get full points from that location's criteria score, while criteria that could be associated with building a stronger narrative for a project but that do not have an explicit line item for points assignment get half the criteria score. NOTE: the total points available will vary significantly across funding programs or other criteria groups based on the number of criteria applicable to that program or group.

**Step 3: Use Overall Scores to compare and prioritize projects for advancement or funding submittal.** Within each funding program, overall score, or any other subset of criteria, compare project summary scores to one another to determine which projects will be the strongest

for that criteria group (funding program). Users can sort results from high to low or apply conditional formatting for a single criteria group to easily see which locations and projects perform the best. Conditional formatting has already been applied to the initial list of project-location scores. NOTE: Do not compare projects across criteria groups or funding programs. The results will not be comparable due to differing numbers of criteria in each.

**Adding New Criteria Groups.** Users can create any new groupings of criteria scores desired, whether for a new funding program or other need. To include it in the overall scoring, start or insert a new column to the end of the existing Summary Scores tab. Use the SUM function

in the first cell and select all relevant criteria from the first row of the Criteria Scores. Apply weights if desired to any of the criteria (e.g., in the initial set of criteria groups, variables that directly give points for a funding program's scoring get full points, while criteria that are only indirectly relevant to narrative but do not provide points get 50% of that criterion's points.) The formula created should automatically input into the rest of the new column, but if not, copy the formula with all relevant criteria summed into each row of the new column.

## APPENDIX: CRITERIA SCORING DETAILS

The section describes how the scores of 0 to 3 are assigned for each criterion in the screening tool. Criteria fall into one of three categories: binary, categorical, or continuous. Binary (yes, no) and categorical (low, med, high) criteria receive points based on predetermined designations for each possible value. Continuous scores (values that range from 0 to a maximum value) are designated on a sliding scale depending on the location's criteria value relative to regional values. Thresholds for continuous scores are based on MPPDC regional values to maximally differentiate projects and tailor results to the MPPDC region.

### Crashes: EPDO

*Continuous*

#### Value assignment:

EPDO is assigned based on the maximum EPDO among the segments that make up the project or location.

#### Scoring:

Due to the distribution of EPDO scores, which has a long right tail, using a straight ratio of the location score to maximum regional value, as is done for other continuous criteria, was not appropriate. Instead, the range of scores is broken into three bins, each of which gets 0-1, 1-2, or 2-3 points. Bins are not the same size – the bin that encompasses the right-hand tail covers a larger range of values. Bins were created based on the average EPDO value ('minimum score'), maximum EPDO value ('max score'), and standard deviations to designate the interim bin thresholds. Scores below the regional average receive no points.

Description	Points	Thresholds	Threshold Definition
High Score	3	5,450,000	Max regional EPDO
Med Score	2	2,124,974	2 st. dev. above mean
Low Score	1	1,380,445	1 st. dev. above mean
Min Score	0	635,916	Mean regional EPDO

Scoring formula in MS Excel:

=IFS(Raw\_Value[@[Crashes: EPDO]]<'Category Scoring'!C\$6, 0,

*Values below the regional average receive no points*

AND(Raw\_Value[@[Crashes: EPDO]]>'Category Scoring'!C\$6, Raw\_Value[@[Crashes: EPDO]]<'Category Scoring'!C\$5), (Raw\_Value[@[Crashes: EPDO]]/'Category Scoring'!C\$5),

*Values between the mean and one standard deviation above mean receive a value between 0 and 1, depending on the ratio of the location value to maximum bin value (1 standard deviation above mean).*

AND(Raw\_Value[@[Crashes: EPDO]]>'Category Scoring'!C\$5, Raw\_Value[@[Crashes: EPDO]]<'Category Scoring'!C\$4), 1+(Raw\_Value[@[Crashes: EPDO]]/'Category Scoring'!C\$4),

*Values between one and two standard deviations above mean receive a value between 1 and 2, depending on the ratio of the location value to maximum bin value (2 standard deviations above mean).*

Raw\_Value[@[Crashes: EPDO]]>'Category Scoring'!C\$4, 2+(Raw\_Value[@[Crashes: EPDO]]/'Category Scoring'!C\$3))

*Values between two standard deviations above mean and the regional maximum receive a value between 2 and 3, based on the ratio of the location value to maximum bin value (regional maximum).*

## Crashes: Bike & Pedestrian

*Categorical*

### Value assignment:

Assigned 'Multiple,' 'Direct,' 'Vicinity,' or 'No' based on whether there has been a fatal or serious injury bike or pedestrian crash at or near the location.

### Scoring:

Description	Points	Thresholds	Threshold Definition
High Score	3	Multiple	More than one fatal or serious injury bike or pedestrian crash at or near location
Med Score	2	Direct	One fatal or serious injury bike/ ped crash at location
Low Score	1	Vicinity	One or more fatal or serious injury bike/ped crash near location
Min Score	0	None	No nearby bike/ ped crashes

## Condition: Pavement

*Categorical*

### Value assignment:

Assigned the worst condition for the project or location.

### Scoring:

Description	Points	Thresholds	Threshold Definition
High Score	3	Very Poor	At least one segment is in very poor condition
Med Score	2	Poor	At least one segment is in poor condition
Low Score	1	Fair	At least one segment is in fair condition
Min Score	0	Good+	All segments are in good or better condition

## Equity Emphasis Area (EEA)

Binary

Indicates whether the location is within a designated Equity Emphasis Area or not.

Description	Points
Yes	3
No	0

## Social Vulnerability

Categorical

Level of social vulnerability for the project or location's Census tract.

### Scoring:

Description	Points	Categories	Threshold Definition
High Score	3	High	Area is classified as high social vulnerability
Med Score	2	Moderate	Area is classified as medium social vulnerability
Low Score	1	-	No "low" classification
Min Score	0	No	Area is classified as not socially vulnerable

## Median Income

Continuous

Values below the regional average income receive a portion of the 3 points available based on how far below average the location is.

=IFS(Raw\_Value[@[Median Income]]>'Category Scoring'!J\$6, 'Category Scoring'!\$C\$6,

Values above the regional average receive no points

Raw\_Value[@[Median Income]]<'Category Scoring'!J\$6, 3\*(('Category Scoring'!J\$6-Raw\_Value[@[Median Income]])/('Category Scoring'!J\$6-'Category Scoring'!J\$3))

Values below the regional average receive a portion of the 3 points available based on the ratio of 1) the difference between the regional average and the location's value, and 2) the difference between the regional average and the regional minimum.

## Multimodal: Sidewalk or Trail

Binary

One point awarded based on whether the location is near or is important in providing access to a bike or pedestrian facility. Determination requires some subjectivity by the individual scoring the project as it is not defined by strict quantitative proximity or network analysis. Local knowledge of locations will be helpful in scoring this and the other multimodal criteria. Points across all three multimodal criteria are combined.

Description	Points
Yes (the location is near or is important in providing access to a bike or pedestrian facility)	1
No (the location is not near or is important in providing access to a bike or pedestrian facility)	0

## Multimodal: Bus Route or Stop

Binary

One point awarded based on whether the location is near or is important in providing access to a bus route or bus stop. Determination requires some subjectivity by the individual scoring the project as it is not defined by strict quantitative proximity or network analysis. Local knowledge of locations will be helpful in scoring this and the other multimodal criteria. Points across all three multimodal criteria are combined.

Description	Points
Yes (the location is near or is important in providing access to a bus route or bus stop)	1
No (the location is not near or is important in providing access to a bus route or bus stop)	0

## Multimodal: Park & Ride

Binary

One point awarded based on whether the location is near or is important in providing access to a pedestrian facility. Determination requires some subjectivity by the individual scoring the project as it is not defined by strict quantitative proximity or network analysis. Local knowledge of locations will be helpful in scoring this and the other multimodal criteria. Points across all three multimodal criteria are combined.

Description	Points
Yes (the location is near or is important in providing access to a pedestrian facility)	1
No (the location is not near or is important in providing access to a pedestrian facility)	0

## Average Daily Traffic (ADT)

Continuous

Points for ADT are only awarded for above-average locations. Scores for these locations range from 0 to 3 based on the location's ratio to the maximum regional ADT.

Scoring formula in MS Excel:

```
=IF(Raw_Value[@ADT]<'Category Scoring'!N$6,
```

*If the value is below the regional average, it gets no points*

```
'Category Scoring'!$C$6, 3*(('Category Scoring'!N$6-Raw_Value[@ADT])/('Category Scoring'!N$6-'Category Scoring'!N$3)))
```

*Values above the regional average receive points from 0 to 3 as a ratio of Location ADT: Max ADT*

## Truck ADT

Continuous

Points for Truck ADT are only awarded for above-average locations. Scores for these locations range from 0 to 3 based on the location's ratio to the maximum regional Truck ADT.

Scoring formula in MS Excel:

```
=IF(Raw_Value[@[Truck ADT]]<'Category Scoring'!O$6,
```

*If the value is below the regional average, it gets no points*

```
'Category Scoring'!$C$6, 3*(('Category Scoring'!O$6-Raw_Value[@[Truck ADT]])/('Category Scoring'!O$6-'Category Scoring'!O$3)))
```

*Values above the regional average receive points from 0 to 3 as a ratio of Location Truck ADT: Max Truck ADT*

## Qualified Opportunity Zone

Binary

Indicates whether the location is within a designated Qualified Opportunity Zone or not.

Description	Points
Yes, location is in a designated Qualified Opportunity Zone	3
No, location not in a designated Qualified Opportunity Zone	0

## Access to Working Waterfront

### Categorical

Points are awarded based on whether the location is near or is important in providing access to a working waterfront. Determination requires some subjectivity by the individual scoring the project as it is not defined by strict quantitative proximity or network analysis. Local knowledge of locations will be helpful in scoring.

#### Scoring:

Description	Points	Thresholds	Threshold Definition
High Score	3	Yes	Project or location directly affects working waterfront access
Med Score	2	-	No medium score
Low Score	1	Vicinity	A working waterfront is nearby and improvements at the location may improve access to and functioning of the working waterfront
Min Score	0	No	No nearby working waterfronts

## Vulnerability (Storm Surge)

### Binary

Points are awarded based on the overall vulnerability score for the attribute SS\_Vulnera in the VTrans Vulnerability layer.

#### Scoring:

Description	Points	Thresholds	Threshold Definition
High Score	3	3 (High)	High vulnerability to storm surge
Med Score	2	2 (Med)	Medium vulnerability to storm surge
Low Score	1	1 (Low)	Low vulnerability to storm surge
Min Score	0	NA	No exposure to storm surge

## Evacuation Route

Binary

Points are awarded based on whether the location is near or provides direct access to the region's designated evacuation route, Route 17. Determination requires some subjectivity by the individual scoring the project as it is not defined by strict quantitative proximity or network analysis. Local knowledge of locations and routing options will be helpful in scoring.

### Scoring:

Description	Points	Thresholds	Threshold Definition
High Score	3	Yes	Project or location is on the region's designated evacuation route
Med Score	2	Access	The project or location is on a road that provides access to the region's evacuation route (no alternate route exists for a notable portion of the network)
Low Score	1	-	No low score
Min Score	0	No	Project or location is not near the designated evacuation route

