

CALTRANS Adaptation Priorities REPORT



August
2020



DISTRICT 8

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1. INTRODUCTION

California’s climate is changing. Temperatures are warming, sea levels are rising, wet years are becoming wetter, dry years are becoming drier, and wildfires are becoming more intense. Most scientists attribute these changes to the unprecedented amounts of greenhouse gases in the atmosphere. Given that global emissions of these gases continue at record rates, further changes in California’s climate are, unfortunately, very likely.

The hazards brought on by climate change pose a serious threat to California’s transportation infrastructure. Higher than anticipated sea levels can regularly inundate roadways, extreme floods can severely damage bridges and culverts, rapidly moving wildfires present profound challenges to timely evacuations, and higher than anticipated temperatures can cause expensive pavement damage over a broad area. As Caltrans’ assets such as bridges and culverts age, they will be forced to weather increasingly severe conditions that they were not designed to handle, adding to agency expenses and putting the safety and economic vitality of California communities at risk.

Recognizing this, Caltrans has initiated a major agency-wide effort to adapt their infrastructure so that it can withstand future conditions. The effort began by determining which assets are most likely to be adversely impacted by climate change in each Caltrans district. That assessment, described in the Caltrans Climate Change Vulnerability Assessment Report for District 8, identified stretches of the State Highway System within the district that are potentially at risk. This Adaptation Priorities Report picks up where the vulnerability assessment left off and considers the implications of those impacts on Caltrans and the traveling public, so that facilities with the greatest potential risk receive the highest priority for adaptation. District 8 anticipates that planning for, and adapting to, climate change will continue to evolve subsequent to this report’s release as more data and experience is gained.

1.1. Purpose of Report

The purpose of this report is to prioritize the order in which assets found to be exposed to climate hazards will undergo detailed asset-level climate assessments. Since there are many potentially exposed assets in the district, detailed assessments will need to be done sequentially according to their priority level. The prioritization considers, amongst other things, the timing of the climate impacts, their severity and extensiveness, the condition of each asset (a measure of the sensitivity of the asset to damage), the number of system users affected, and the level of network redundancy in the area. Prioritization scores are generated for each potentially exposed asset based on these factors and used to rank them.

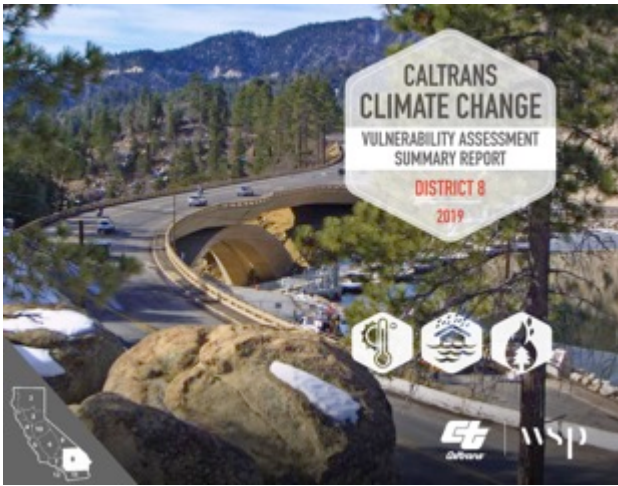
1.2. Report Organization

The main feature of this report is the prioritized list of potentially exposed assets within District 8. Per above, this information will inform the timing of the detailed adaptation assessments of each asset, which is the next phase of Caltrans’ adaptation work. The final prioritized list of assets for District 8 can be found in Chapter 4 of this document. The interim chapters provide important background information on the prioritization process. For example, those interested in learning more about Caltrans’ overall adaptation efforts, and how the prioritization fits into that, should refer to Chapter 2. Likewise, those who are interested in learning more about how the prioritization was determined should refer to Chapter 3.

2. CALTRANS' CLIMATE ADAPTATION FRAMEWORK

Enhancing Caltrans' capability to consider adaptation in all its activities requires an agency-wide perspective and a multi-step process to make Caltrans more resilient to future climate changes. The process for doing so will take place over many years and will, undoubtedly, evolve over time as everyone learns more about climate hazards, better data is collected, and experience shows which techniques are most effective. Researchers have just started examining what steps an overarching adaptation framework for a department of transportation should entail. Figure 1 provides a graphical illustration of one such path called the Framework for Enhancing Agency Resiliency to Natural and Anthropogenic Hazards and Threats (FEAR-NAHT).¹ This framework, developed through the National Cooperative Highway Research program (NCHRP), has been adopted by Caltrans as part of its long-term plan for incorporating adaptation into its activities (hereafter referred to as the Caltrans Climate Adaptation Framework or "Framework").

Steps 1 through 4 of the Framework represent activities that are currently underway at Caltrans Headquarters to effectively manage its new climate adaptation program and develop policies that will help jumpstart adaptation actions throughout the organization. Step 1, *Assess Current Practice*, and Step 4, *Implement Early Wins*, are both addressed within a document called the Caltrans Climate Adaptation Strategy Report. The Adaptation Strategy Report undertook a comprehensive review of all climate adaptation policies and activities currently in place or underway at Caltrans. The report also includes numerous no-regrets adaptation actions ("early wins") that can be taken in the near-term to enhance agency resiliency. Several of these strategies also touch on elements of Step 2, *Organize for Success*, and Step 3, *Develop an External Communications Strategy and Plan*. In addition to this, a



COVER OF THE CALTRANS
CLIMATE CHANGE VULNERABILITY ASSESSMENT
SUMMARY REPORT FOR DISTRICT 8

comprehensive adaptation communications strategy and plan for climate change is being developed as part of a Caltrans pilot project with the Federal Highway Administration.

Step 5, *Understand the Hazards and Threats*, is the first step where detailed technical analyses are performed, and in this case, identify assets potentially exposed to various climate stressors. This step has been completed for a subset of the assets and hazards in District 8 and the results are presented in the Caltrans Climate Change Vulnerability Assessment Report for District 8. The exposure information generated in the Vulnerability Assessment Report is used as an input to this study.

¹ This framework and related guidance for state DOTs is being developed as part of NCHRP 20-117, Deploying Transportation Resilience Practices in State DOTs (expected completion in 2020).

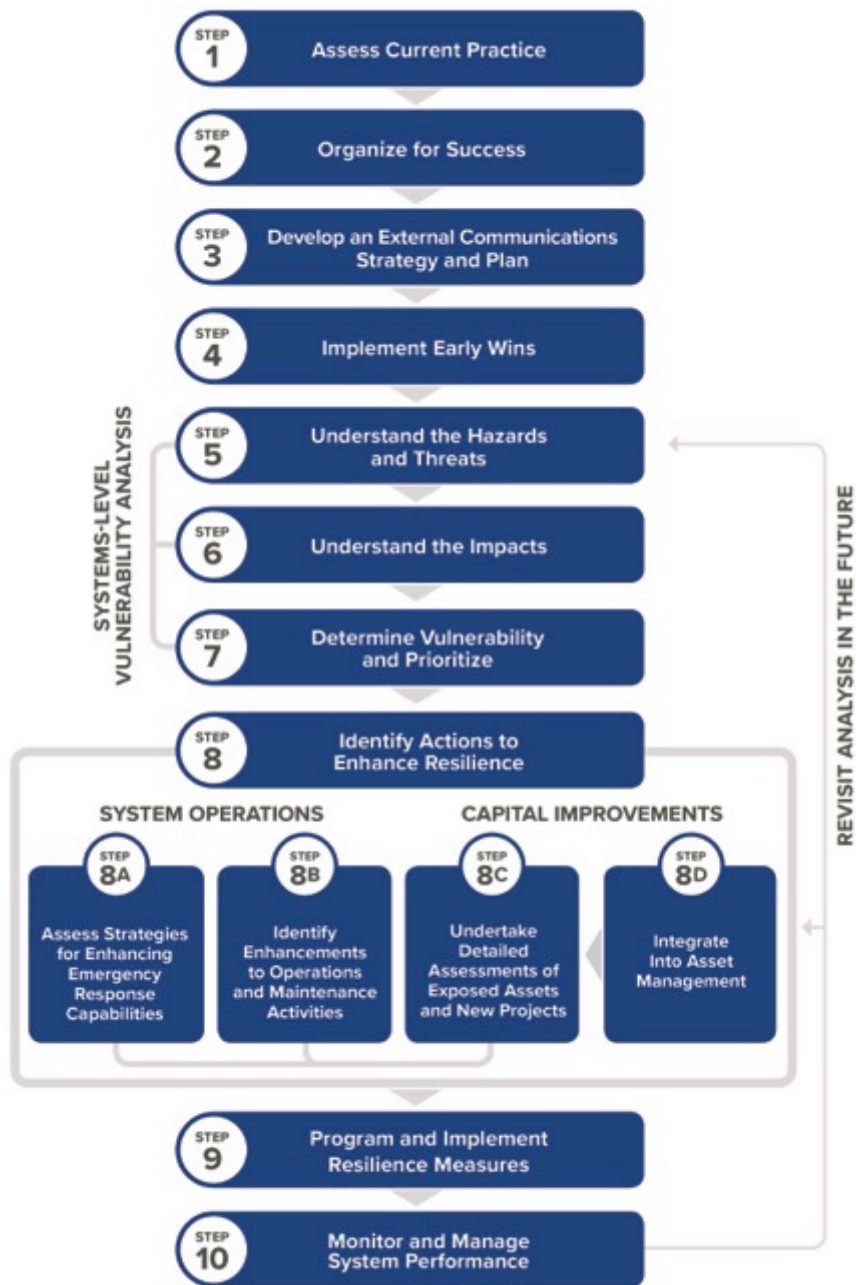


FIGURE 1: CALTRANS' CLIMATE ADAPTATION FRAMEWORK

The work undertaken for this study, the District 8 Adaptation Priorities Report covers both Steps 6 and 7 in the Framework. Step 6, *Understand the Impacts*, is focused on the implications of the exposure identified in Step 5. This includes understanding the sensitivity of the asset to damage from the climate stressor(s) it is potentially exposed to and understanding the criticality of the asset to the functioning of the transportation network and the communities it serves. Developing an understanding of these considerations is part of the prioritization methodology described in the next chapter.

Step 7, *Determine Vulnerability and Prioritize*, focuses on creating and implementing a prioritization approach that considers both the nature of the exposure identified in Step 5 (its severity, extensiveness, and timing) and the consequence information developed in Step 6. The goal of the prioritization is to identify which assets should undergo detailed adaptation assessments first, because resource constraints will prevent all assets from undergoing detailed study simultaneously.

After Step 7, the Framework divides into two parallel tracks, one focused on operational measures to enhance resiliency and the consideration of adaptation (Steps 8A and 8B) and the other on identifying adaptation-enhancing capital improvement projects (Steps 8C and 8D). Collectively, these represent the next steps that should be undertaken using the information from this report. On the operations track, the results of this assessment should be reviewed for opportunities to enhance emergency response (Step 8A) and operations and maintenance (Step 8C). Caltrans' next step on the capital improvement track should be to undertake detailed assessments of the exposed facilities (Step 8C). The prioritization information generated as part of this assessment should also be integrated into the state's asset management system (Step 8D). All projects recommended through the asset management process should also undergo detailed adaptation assessments (hence the arrow from Step 8D to 8C).

Thus, there will be two parallel pathways for existing assets to get to detailed facility level adaptation assessments. The first is through this prioritization analysis, which is driven primarily by the exposure to climate hazards with asset condition as a secondary consideration. The second is through the existing asset management process, which is driven primarily by asset condition and will have vulnerability to climate hazards as a secondary consideration.

The detailed adaptation assessments in Step 8C will involve engineering-based analyses to verify asset exposure to pertinent climate hazards (some exposed assets featured in this report will not be exposed after closer inspection). Then, if exposure is verified, Step 8C includes the development and evaluation of adaptive measures to mitigate the risk. The highest priority assets from this study will be evaluated first and lower priority assets will be evaluated later. Once specific adaptation measures have been identified, be they operational measures or capital improvements, these projects can then be programmed (Step 9). Step 10 then focuses on continuous monitoring of system performance to track progress towards enhancing resiliency. Note the feedback loops from Step 10 to Steps 5 and 8. The arrow back to Step 5 indicates that the exposure analysis should be revisited in the future as new climate projections are developed. The arrow back to Step 8 indicates how one can learn from the performance indicators and use this data to modify the actions being undertaken to enhance resilience.

3. PRIORITIZATION METHODOLOGY

3.1. General Description of the Methodology

The methodology used to prioritize assets exposed to climate hazards draws upon both technical analyses and the on-the-ground knowledge from all district staff. The technical analysis component was undertaken first to provide an initial indication of adaptation priorities. These initial priorities were then reviewed with district staff at a workshop and adjusted to reflect local knowledge and recommendations. These adjustments are embedded in the final priorities shown in Chapter 4.

With respect to the technical analysis, there are a few different approaches for prioritizing assets based on their vulnerability to climate hazards. The approach selected for this study is known as the indicators approach. The indicators approach involves collecting data on a variety of variables that are determined to be important factors for prioritization. These are then put on a common scale, weighted, and used to create a score for each asset. The scores collectively account for all the variables of interest and can be ranked to determine priorities.

It is important to note that, since the prioritization process is focused on determining the order in which detailed adaptation assessments are conducted; only assets that are determined potentially exposed to a climate hazard are included in this analysis. Assets that were determined to have no exposure to the hazards studied are not included in this study.

The remainder of this chapter describes the prioritization methodology in detail. Section 3.2 begins by describing the asset types and hazards studied. Next, Section 3.3 discusses the individual prioritization metrics (factors) that were used in the technical analysis. Following this, Section 3.4 describes how those individual factors were brought together into an initial prioritization score for each asset. Lastly, Section 3.5 describes how the initial prioritization was adjusted with input from district staff.

3.2. Asset Types and Hazards Studied

Caltrans is responsible for maintaining dozens of different asset types (bridges, culverts, roadway pavement, buildings, etc.). Each of these asset types is uniquely vulnerable to a different set of climate stressors. Resource constraints only allowed this study to investigate a subset of the asset types owned by Caltrans in District 8 and, for those, only a subset of the climate stressors that could impact them. Additional exposure and prioritization analyses are needed in the future to gain a fuller understanding of Caltrans' adaptation needs.



SR-138 STORM DAMAGE

The subset of asset types and hazards included in this study generally mirror those that were included in the District 8 Climate Change Vulnerability Assessment Report. That said, exposure to two additional hazards was included as part of this study: (1) riverine flooding impacts to bridges and culverts and (2) temperature impacts to pavement binder grade. Table 1 shows all the asset types included in this study for District 8 and marks with an “X” the hazards that were evaluated for each in the exposure analysis.

TABLE 1: ASSET-HAZARD COMBINATIONS STUDIED

	Wildfire	Temperature	Riverine Flooding
Pavement Binder Grade		X	
Bridges			X
Large Culverts ²			X
Small Culverts ³	X		X

The various asset-hazard combinations include:

- Pavement binder grade exposure to temperature changes:** Binder can be thought of as the glue that holds the various aggregate materials in asphalt together. Binder is sensitive to temperature. If temperatures become too hot, the binder can become pliable and deform under the weight of traffic. On the other hand, if temperatures are too cold, the binder can shrink causing cracking of the pavement. There are various types (grades) of binder, each suited to a different temperature regime. This study considered how climate change will influence high and low temperatures and how this, in turn, could affect pavement binder grade performance.

Assumptions were made that (1) all roadways are currently (or could be in the future) asphalt and (2) the binder grade currently in place on each segment of roadway matches the specifications in the Caltrans Highway Design Manual. From here, the allowable temperature ranges of each binder grade were compared to projected temperatures in the following time frames: 2010-2039, 2040-2069, or 2070-2099. If the temperature parameters exceeded the design tolerance of the assumed binder grade, that segment of roadway was deemed potentially exposed.



US-95 STORM EVENT AND CRACKED PAVEMENT

² Culverts 20 feet or greater in width.

³ Culverts less than 20 feet in width.

- **Bridge exposure to riverine flooding:** Bridges are sensitive to higher flood levels and river flows. With climate change, precipitation is generally expected to become more intense in District 8 leading to increased flooding on rivers and streams. These higher flows could exceed the design tolerances of bridges. In addition, wildfires are also expected to become more prevalent in District 8 with climate change. After a wildfire burns, the ground can become hard and less capable of absorbing water. As a result, flood flows can increase substantially in the aftermath of a fire, which could further exacerbate the risks to bridges. To better understand the threat posed to bridges in District 8, a flood exposure index was developed and calculated for each bridge that crosses a river or stream. The index considered both the changes in precipitation and wildfire likelihood in the area draining to the bridge in the early, mid, and late century timeframes. The index also considers the capacity of the bridge to handle higher flows using waterway adequacy information from the National Bridge Inventory (NBI). A higher score on the index indicates bridges at relatively greater risk due to a combination of higher projected flows and lower capacity.
- **Large culvert exposure to riverine flooding:** A distinction is made in the analysis between large and small culverts due to different data being available for each. Large culverts are included in the NBI and are generally 20 feet or greater in width. Small culverts are generally shorter than 20 feet in width and covered through a different inventory/inspection program. Large culverts, like bridges, are sensitive to increased flood flows. Thus, a flood exposure index was calculated for each large culvert in the same manner as was done for bridges.
- **Small culvert exposure to riverine flooding:** Small culverts (those less than 20 feet in width) are, like bridges and large culverts, also sensitive to higher flood flows. Hence, a flood exposure index like the one for bridges and large culverts was calculated for this asset type. The one difference is that the capacity component of the index for small culverts used the actual dimensions of the culvert, information that was not available for bridges and large culverts. Although the actual dimensions of small culverts were available, due to resource and data constraints, no hydraulic analyses were performed to determine overtopping potential. Instead, the size was simply used as a factor in the riverine flood exposure index.

- Small culvert exposure to wildfire:**
 In addition to the higher post-fire flood flows captured in the flood exposure analysis, culverts can also be sensitive to the direct impacts of fire on the structure. Certain culvert materials (e.g. wood and plastic) can easily burn or be deformed during a fire. Thus, an assessment was made to determine the likelihood of a wildfire directly impacting each small culvert in the early, mid, and late century timeframes. This analysis was only conducted for small culverts because information on culvert construction materials was not available for large culverts.



CULVERT AFTER A FIRE AT SR-91

3.3. Prioritization Metrics

Metrics are the individual variables used to calculate a prioritization score for each asset. These can be thought of as the individual factors that, collectively, help determine the asset's priority for adaptation. Each of the asset-hazard combinations described in the previous section has its own unique set of factors that are used in the prioritization. The metrics were selected based on their relevancy to each asset-hazard combination and the data availability. For example, the condition rating of a culvert is a very relevant metric for prioritizing culverts exposed to riverine flooding, however, it is not at all relevant to prioritizing bridges exposed to the same hazard. Table 2 provides an overview of all the metrics included in this study and denotes with an "X" their application to the various asset-hazard combinations studied.

TABLE 2: METRICS INCLUDED FOR EACH ASSET-HAZARD COMBINATION STUDIED

Metrics	Wildfire	Temperature	Riverine Flooding		
	Small Culverts	Pavement Binder Grade	Bridges	Large Culverts	Small Culverts
Exposure					
Past natural hazard impacts	X		X	X	X
Initial timeframe for elevated level of concern for wildfire	X				
Highest projected wildfire level of concern	X				
Initial timeframe when asphalt binder grade needs to change		X			
Maximum riverine flooding exposure score for the 2010-2039 timeframe			X	X	X
Maximum riverine flooding exposure score			X	X	X
Consequences					
Bridge substructure condition rating			X		
Channel and channel protection condition rating			X	X	
Culvert condition rating				X	X
Culvert material	X				
Scour rating			X		
Average annual daily traffic (AADT)	X	X	X	X	X
Average annual daily truck traffic (AADTT)	X	X	X	X	X
Incremental travel distance to detour around the asset	X		X	X	X

The metrics included in this study fall into two categories: exposure metrics and consequence metrics. Exposure metrics capture the extensiveness, severity, and timing of a hazard’s projected impact on an asset. Assets that have more extensive, more severe, and sooner exposure are given a higher priority. Consequence metrics provide an indication of how sensitive an exposed asset is to damage using information on the asset’s condition. Consequence metrics also indicate how sensitive the overall transportation network may be to the loss of that asset should it be taken out of service by a hazard. The poorer the initial conditions of the potentially exposed asset and the more critical it is to the functioning of the transportation network, the higher the priority given. The specific metrics that are included within each of these categories are described in the sections that follow.

3.3.1. Exposure Metrics

The following metrics were used to assess asset exposure in District 8:

- Past natural hazard impacts:** Assets that have experienced weather or fire-related impacts in the past are likely to experience more issues in the future as climate changes and should be prioritized. Care was taken to ensure that these impacts occurred on assets that had not been replaced with a more resilient design after the flood event occurred. In addition, this study identifies small culverts that were damaged directly by fire and replaced with culverts of the same

material. Any asset that was identified as previously impacted by either flooding or fire was flagged and that asset was given a higher priority for adaptation.

- Initial timeframe for elevated level of concern from wildfire:** Assets that are more likely to be impacted by wildfire sooner should be prioritized first. Using the future wildfire projections developed for the District 8 Climate Change Vulnerability Assessment Report, the initial timeframe (2010-2039, 2040-2069, 2070-2099, or Beyond 2099) for heightened wildfire risk was determined for each small culvert. The most recent timeframe across the range of available climate scenarios was chosen. Assets that were impacted sooner were given a higher priority for adaptation.



SR-18 FIRE

- Highest projected wildfire level of concern:** Assets that are exposed to a greater wildfire risk should be prioritized. The wildfire modeling conducted for the District 8 Climate Change Vulnerability Assessment Report classified fire risk into five levels of concern (very low, low, moderate, high, and very high) at various future time periods. Using this data, the highest level of concern was determined for each small culvert between now and 2100 and across all climate scenarios. Assets with higher levels of concern were given a higher priority for adaptation.
- Initial timeframe when asphalt binder grade needs to change:** Roadway segments that are more likely to need binder grade changes sooner should be prioritized. Using the assumptions and data from the pavement binder grade exposure analysis described above, the initial timeframe (prior to 2010, 2010-2039, 2040-2069, or 2070-2099) for binder grade change was determined. Roadway segments that were found to need binder grade changes sooner were given a higher priority for detailed adaptation assessments.

- Maximum riverine flooding exposure score for the 2010-2039 timeframe:** Assets that have relatively higher exposure to riverine flooding in the near-term should be prioritized. Using the riverine flood exposure index values calculated using the process described above, the highest score for the near-term (2010-2039) period was determined for each bridge, large culvert, and small culvert considering all climate scenarios and the range of outputs from all climate and wildfire models. Assets with the highest overall riverine flooding scores in this initial period received a higher priority for adaptation.



SR-138 FLOODING

- Maximum riverine flooding exposure score:** In addition to understanding the most pressing near-term needs for dealing with riverine flooding, assets that have relatively higher exposure to riverine flooding at any point over their lifespans should also be prioritized. To calculate this metric, the highest riverine flooding exposure score was determined for each asset considering all time periods (from now through 2100), all climate scenarios, and all climate and wildfire models. Assets with the highest overall riverine flooding scores received a higher priority for adaptation.

3.3.2. Consequence Metrics

The following metrics were used to understand the consequences of each asset’s exposure taking into consideration both the asset sensitivity to damage and network sensitivity to loss of the asset:

- Bridge substructure condition rating:** Poor bridge substructure condition can contribute to failure during riverine flooding events. The NBI assigns a substructure condition rating to each

bridge. Values range from nine to two with lower values indicating poorer condition. Bridges with poor substructure condition ratings were given higher priority for adaptation assessments.

- Channel and channel protection condition rating:** Poor channel conditions or inadequate channel protection measures can contribute to failure during riverine flooding events. The NBI assigns a channel and channel protection condition rating to each bridge and large culvert. Values range from nine to two with lower values indicating poorer condition. Bridges and large culverts with poor channel or channel protection ratings were given higher priority for adaptation assessments.
- Culvert condition rating:** Poor culvert condition can contribute to failure during riverine flooding events. The NBI assigns a culvert condition rating to each large culvert. Values range from nine to two with lower values indicating poorer condition. Caltrans has developed their own culvert condition rating system for small culverts. Possible ratings in the Caltrans system include good, fair, critical, and poor. Large and small culverts with poorer condition ratings in either system were prioritized.
- Culvert material:** Culvert material determines the sensitivity of culverts to direct damage from wildfires. Caltrans includes material data in its databases on small culverts (no equivalent information exists for large culverts). Possible culvert materials include HDPE (high density polyethylene [plastic]), PVC (polyvinyl chloride [plastic]), corrugated steel pipe, composite, wood, masonry, and concrete. HDPE, PVC, corrugated steel pipe, composite, and wood culverts are all more sensitive to wildfire and any small culverts made from these materials that are exposed to an elevated risk from wildfire were prioritized for adaptation.
- Scour rating:** Scour is a condition where water has eroded the soil around bridge piers and abutments. Excessive scour of bridge foundations makes bridges more prone to failure, especially during riverine flooding events. The NBI assigns a scour condition rating to each bridge. Values range from eight to two with lower values indicating greater scour concern. Bridges with lower scour values (higher scour concern) were given higher priority for adaptation assessments.
- Average annual daily traffic (AADT):** AADT is a measure of the average traffic volume on a roadway. The consequences of weather-related failures/disruptions/maintenance are greater for assets that convey a higher volume of traffic. Disruptions on higher volume roads affect a greater proportion of the traveling public and there is a greater chance of congestion ripple effects throughout the network because alternate routes are less likely to be able to absorb the diverted traffic. AADT data was obtained from Caltrans databases



TRAFFIC ON SR-138

and assigned to all the asset types included in this study. Exposed assets with higher AADT values were given greater priority for adaptation.

- **Average annual daily truck traffic (AADTT):** AADTT is a measure of the average truck volumes on a roadway. Efficient goods movement is important for maintaining economic resiliency and for providing relief supplies after a disaster. The consequences of weather-related failures/disruptions/maintenance are greater for assets that are a critical link in supply chains. AADTT data was obtained from Caltrans databases and assigned to all the asset types included in this study. Potentially exposed assets with higher AADTT values were given greater priority for adaptation.
- **Incremental travel distance to detour around the asset:** This metric measures the degree of network redundancy around each asset. A detour routing tool was developed for this project that can find the shortest path detour around a bridge, large culvert, or small culvert and calculate the additional travel distance that would be required to take that detour. The tool was run for each of the assets studied. Assets that had very long detour routes were given greater priority for adaptation.



I-10 DETOUR

3.4. Calculation of Initial Prioritization Scores

Once all of the metrics had been gathered/developed, the next step was to combine them and calculate an initial prioritization score for each asset. Calculating prioritization scores is a multi-step process that was conducted using Microsoft Excel. The primary steps are as follows:

1. **Scale the raw metrics:** Several of the metrics described in the previous section have different units of measurement. For example, the AADT metric is measured in vehicles per day whereas the incremental travel time to detour around the asset is measured in minutes. There is a need

to put each metric on a common scale to be able to integrate them into one scoring system. For this study, it was decided to use a scale ranging from zero to 100 with zero indicating a value for a metric that would result in the lowest possible priority level and 100 indicating a value for a metric that would result in the highest possible priority level. The district-wide minimum and maximum values for each metric were used to set that metric's zero and 100 values. The past weather/fire impacts metric (which had binary values) was assigned a zero if the condition was false (i.e., there were no previous weather/fire impacts reported) and 100 if the condition was true. Categorized values, like the various conditions rating metrics, were generally parsed out evenly between zero and 100 (i.e., if there were seven condition rating values, the minimum and maximum values were coded as zero and 100, respectively, with the five remaining categories assigned values at intervals of 20). The remaining metrics with continuous values were allowed to fall at their proportional location within the re-scaled zero to 100 range.

2. **Apply weights:** Some metrics have been determined by Caltrans to be more important than others for determining priorities. Therefore, the relative importance of each metric was adjusted by multiplying the scaled score by a weighting factor. Metrics deemed more important to prioritization were multiplied by a larger weight. For consistency, Caltrans Headquarters staff harmonized the weights to be used in all districts based on national best practices and input from the districts. Table 3 shows the weighting schema applied to the asset-hazard combinations in District 8. The weights are percentage based and add to 100% for all the metrics within a given asset-hazard combination (column).

TABLE 3: WEIGHTS BY METRIC FOR EACH ASSET-HAZARD COMBINATION STUDIED

Metrics	Percentage Weights by Asset Type				
	Wildfire	Temperature	Riverine Flooding		
	Small Culverts	Pavement Binder Grade	Bridges	Large Culverts	Small Culverts
Exposure					
Past natural hazard impacts	20%	-	20%	20%	20%
Initial timeframe for elevated level of concern for wildfire	17.5%	-	-	-	-
Highest projected wildfire level of concern	17.5%	-	-	-	-
Initial timeframe when asphalt binder grade needs to change	-	60%	-	-	-
Maximum riverine flooding exposure score for the 2010-2039 timeframe	-	-	22.5%	22.5%	22.5%
Maximum riverine flooding exposure score	-	-	22.5%	22.5%	22.5%
Consequences					
Bridge substructure condition rating	-	-	1%	-	-
Channel and channel protection condition rating	-	-	2.5%	2.5%	-
Culvert condition rating	-	-	-	2.5%	5%
Culvert material	20%	-	-	-	-
Scour rating	-	-	6.5%	-	-
Average annual daily traffic (AADT)	7%	13%	7%	10%	10%
Average annual daily truck traffic (AADTT)	3%	27%	3%	5%	5%
Incremental travel distance to detour around the asset	15%	-	15%	15%	15%
TOTAL	100%	100%	100%	100%	100%

In general, higher weights were assigned to the future exposure metrics (including those considering both the hazard timing and severity), as they are the primary drivers of adaptation need. This helps ensure adaptations are considered proactively before the hazards affect the assets. It also focuses the first detailed assessments on those assets that are projected most severely affected by climate change.

Amongst the consequence metrics, more weight is given to the AADT and detour route variables relative to the condition rating related variables (bridge substructure condition rating, channel and channel protection condition rating, culvert condition rating, and scour rating). The logic for this is as follows. First, except for the scour rating, the connection between asset condition and asset failure during a hazard event is not always straightforward. Where there is less confidence in a metric, it is weighted less.⁴ Second, other prioritization systems used by Caltrans, namely the asset management system, focus on condition to prioritize assets. Thus, poor condition assets will already be prioritized through that program and, per Caltrans’ Climate Adaptation Framework shown in Figure 1, will also undergo detailed

⁴ Note that the scour rating metric is weighted somewhat higher than the other condition related assets because of its more direct connection to asset failure.

adaptation assessments before upgrades are made. There is little value in duplicating that prioritization system for this report; instead this effort puts more priority on assets based on their exposure to climate change-related hazards. Lastly, the traffic volume and detour length variables are the primary measures by which impacts to users of the system are captured and, given the importance of mobility to the functioning of the state, were weighted higher.⁵

An exception to some of the logic noted above can be found with small culvert exposure to wildfire. For these assets, nearly as much weight is given to the culvert material variable as to the AADT and detour route variables collectively. This is because the very nature of the threat to small culverts from wildfire is highly related to the material of the culvert. If the culvert is plastic or wood, it is much more susceptible to fire damage than, say, a concrete culvert. Since they are less likely to be adversely affected by fire in the first place, one would not want to give high priority to concrete culverts for wildfire just because they convey a high AADT or have long detour routes. That is why more weight is placed on the material metric for this particular asset-hazard combination.

3. **Calculate prioritization scores for each hazard:** After the weights were applied, the next step was to calculate prioritization scores for each individual hazard. This was done by first summing the products of the weights and scaled values for all the metrics relevant to the particular asset-hazard combination being studied (i.e., summing up the products for each column in Table 3). Since there are different numbers of metrics used to calculate the score for each asset-hazard combination, these values were then re-scaled to range from zero to 100 with zero representing the lowest priority asset and 100 the highest priority asset. These interim scores provide useful information for understanding asset vulnerability to each specific hazard.
4. **Calculate cross-hazard prioritization scores:** While the prioritization scores for each hazard provide useful information, they do not provide the full picture on the threats posed to each asset. It was decided that the final scores used as the basis for prioritization need to look holistically across all the hazards analyzed. This cross-hazard perspective provides a better view of the collective threats faced by each asset and a better basis for prioritization. To calculate the cross-hazard scores, the scores for each hazard analyzed for the asset were summed. These were then re-scaled yet again to a zero to 100 scale since different asset types have different numbers of hazards. As before, the higher the score, the higher the adaptation priority of that asset. These cross-hazard scores represent the final scores calculated for each asset during the technical assessment portion of the methodology.

⁵ Within the traffic volume related metrics, note that slightly more weight is given to AADT as opposed to truck AADT given that the majority of traffic on a roadway is non-truck. Thus, it was reasoned that the total volume should factor in somewhat more heavily than the truck volume. One exception to this was for temperature impacts to pavement. This asset-hazard combination is unique in that the traffic volume information is not just an indicator of how many users may be affected by necessary pavement repairs but also an indicator of how much damage may occur to the pavement should temperatures exceed binder grade design thresholds. Given that, for this asset-hazard combination, more weight is given to truck volumes since trucks do disproportionately more damage to temperature-weakened pavement.

5. **Assign priority levels:** The final step in the technical assessment was to group together assets into different priority levels based on their cross-hazard scores. This was done to make the outputs more oriented to future actions, decrease the tendency to read too much into minor differences in the cross-hazard scores, and better facilitate dialogue at the workshop with District 8 staff. Five priority levels were developed (Priority 1, 2, 3, 4, and 5) and assets were assigned to those groups on a district-wide basis. An equal number of assets were assigned to each priority level to help facilitate administration of the facility-level adaptation assessments that will follow this study.



SR-330 WASHOUT

3.5. Adjustments to Prioritization

A workshop was held with the district to explain the scoring methodology and go over the preliminary results. District 8 staff were given the opportunity to adjust asset priorities based on their expertise with State Highway System assets across the district and their understanding of ongoing or upcoming projects which may affect asset priorities. The district accepted the prioritization as-is and or did not adjust any of the priorities.

4. DISTRICT ADAPTATION PRIORITIES

This chapter presents Caltrans' priorities for undertaking detailed adaptation assessments of assets exposed to climate change in District 8. The material presented in this chapter reflects the results of the technical analysis and the coordination with District 8 staff described in the previous chapter. The information is broken out by asset type with priorities for bridges discussed in the first section, followed by those for large culverts, small culverts, and roadways.

4.1. Bridges

A total of 361 bridges were assessed for vulnerability to enhanced riverine flooding associated with climate change. All these bridges should eventually undergo detailed adaptation assessments. However, due to resource limitations, this will not be possible to do all at once. Instead, the bridges will be analyzed over time according to the priorities presented here.

Figure 2 provides a map of all the bridges assessed for riverine flooding in the district. The color of the points corresponds to the priority assigned to each bridge; darker red colors indicate higher priority assets. There are 72 Priority 1 bridges in District 8. The map shows that high priority bridges are scattered throughout the district. That said, there are a few clusters of areas that have several high priority bridges. A large cluster of high priority bridges have been identified along Interstate 10 in Eastern Riverside County, near State Route 177 and State Route 62 due to high riverine flood exposure scores and, in some cases, past identified riverine flooding impacts. Some of these assets also have very long detour routes. There is also a large cluster of high priority bridges identified along Interstate 40 in central San Bernardino County due also to high riverine flood exposure scores, some past impacts, and, in some cases, very long detour routes.



I-10 STORM DAMAGED BRIDGE

Table 4 presents a summary of all the Priority 1 bridges in District 8 sorted by their cross-hazard prioritization scores. A complete listing of all bridges ranked by their prioritization scores appears in Table 8 in the appendix.

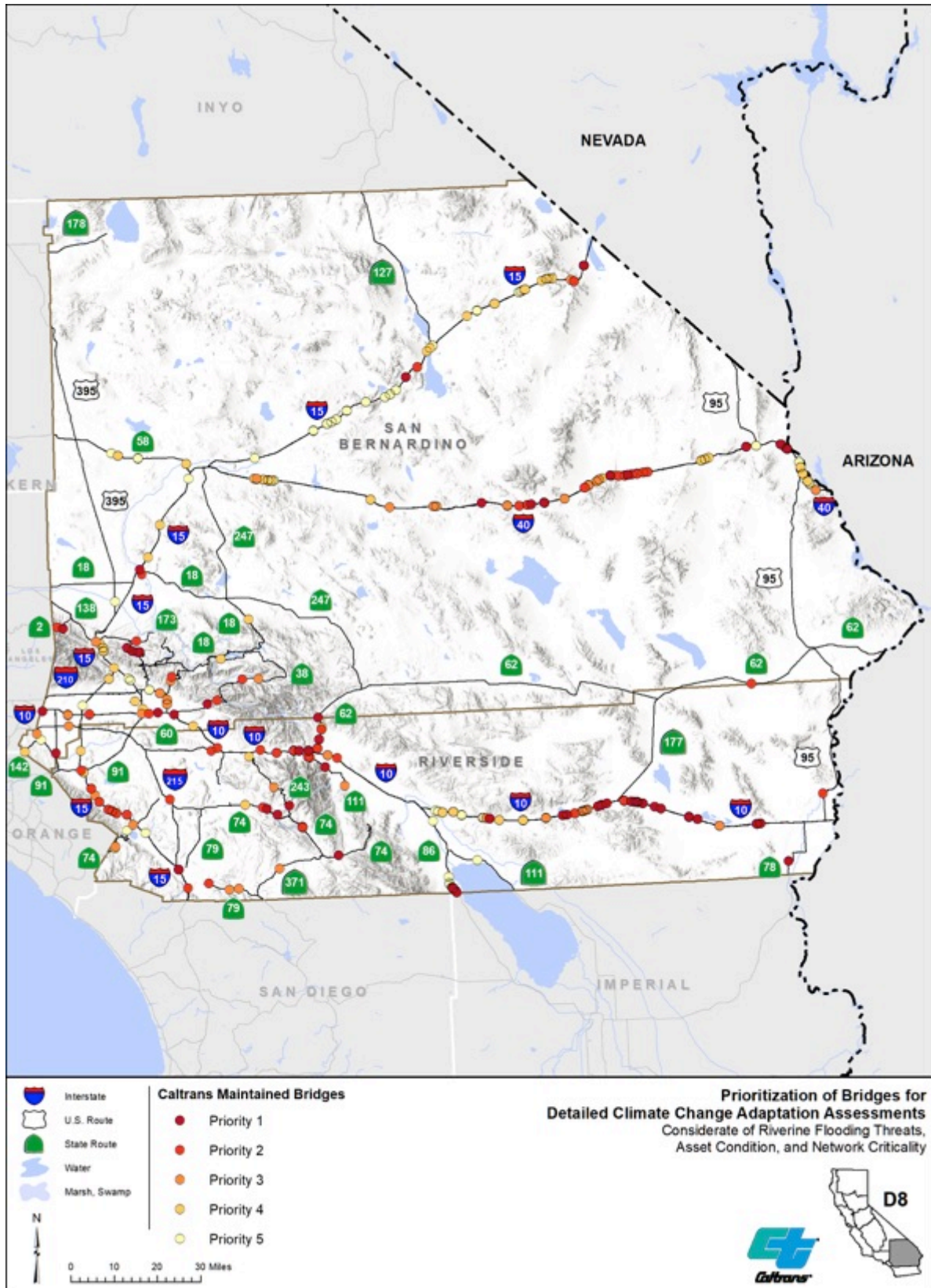


FIGURE 2: PRIORITIZATION OF BRIDGES FOR DETAILED ADAPTATION ASSESSMENTS

TABLE 4: PRIORITY 1 BRIDGES

Priority	Bridge Number	County ⁶	Route	Feature Crossed	Postmile	Cross-Hazard Prioritization Score
1	56 0004R	RIV	INTERSTATE 10 EB	WHITEWATER RIVER	27.69	100.00
1	56 0004L	RIV	INTERSTATE 10 WB	WHITEWATER RIVER	27.69	97.48
1	54 0858	SBD	STATE HIGHWAY 138	SAWPIT CANYON	R28.07	64.34
1	54 0799R	SBD	INTERSTATE 40	HALFWAY HILLS WASH	R101.33	61.83
1	54 0799L	SBD	INTERSTATE 40	HALFWAY HILLS WASH	R101.33	57.79
1	56 0163R	RIV	STATE ROUTE 86 NB	TRAVERTINE DITCH	0.09	55.32
1	56 0097R	RIV	INTERSTATE 10	WIDE DITCH	R101.14	52.30
1	56 0099L	RIV	INTERSTATE 10	ADAIR DITCH	R100.38	50.60
1	54 0859	SBD	STATE HIGHWAY 138	BURNT MILL CANYON	R29.38	50.02
1	54 0204R	SBD	INTERSTATE 40	ARBOL DITCH	R129.82	47.39
1	54 0204L	SBD	INTERSTATE 40	ARBOL DITCH	R129.78	47.36
1	54 0360	SBD	STATE HIGHWAY 2	SHEEP CREEK	2.44	46.99
1	54 0860	SBD	STATE HIGHWAY 138	SEELEY CREEK	R29.96	46.70
1	56 0830	RIV	STATE ROUTE 78	PALO VERDE DRAIN	3.28	46.54
1	56 0193L	RIV	STATE ROUTE 111 SB	CHINO CREEK	55.88	46.16
1	56 0789	RIV	STATE ROUTE 243	STRAWBERRY CREEK	3.98	46.07
1	56 0550R	RIV	INTERSTATE 10	ACARI DITCH	R122.15	45.04
1	54 0846	SBD	STATE HIGHWAY 138	WEST FORK MOJAVE RIVER	R26.48	43.52
1	56 0576L	RIV	INTERSTATE 10	TEX WASH	R102.63	43.34
1	56 0123L	RIV	INTERSTATE 10	ORRIS DITCH	R91.92	42.89
1	56 0550L	RIV	INTERSTATE 10	ACARI DITCH	R122.15	42.78
1	56 0122L	RIV	INTERSTATE 10	KRUME DITCH	R92.9	42.64
1	56 0511L	RIV	INTERSTATE 10 WB	EAST CACTUS CITY UC	R74.83	41.97
1	54 0848R	SBD	INTERSTATE 40 EB	SIBERIA WASH	R65.59R	41.96
1	56 0511R	RIV	INTERSTATE 10	EAST CACTUS CITY UC	R74.83	41.85
1	56 0039L	RIV	INTERSTATE 10	META DITCH	R110.99	41.29
1	56 0039R	RIV	INTERSTATE 10	META DITCH	R110.99	41.29
1	56 0123R	RIV	INTERSTATE 10	ORRIS DITCH	R91.92	41.27
1	56 0122R	RIV	INTERSTATE 10	KRUME DITCH	R92.9	41.03
1	56 0015L	RIV	INTERSTATE 10	ISORA DITCH	R139.18	40.99
1	56 0015R	RIV	INTERSTATE 10	ISORA DITCH	R139.18	40.98
1	56 0016R	RIV	INTERSTATE 10	MCCOY WASH	R138.29	40.60
1	56 0016L	RIV	INTERSTATE 10	MCCOY WASH	R138.29	40.60

⁶ RIV = Riverside; SBD = San Bernardino

Priority	Bridge Number	County ⁶	Route	Feature Crossed	Postmile	Cross-Hazard Prioritization Score
1	54 1274L	SBD	INTERSTATE 40 WB	MARBLE WASH	R80.42	39.93
1	56 0044R	RIV	INTERSTATE 10	QUARTZ DITCH	R108.28	39.91
1	56 0044L	RIV	INTERSTATE 10	QUARTZ DITCH	R108.28	39.91
1	56 0605R	RIV	INTERSTATE 10 EB	COTTONWOOD CREEK	R25.44	39.69
1	56 0605L	RIV	INTERSTATE 10 WB	COTTONWOOD CREEK	R25.44	39.10
1	54 1274R	SBD	INTERSTATE 40 EB	MARBLE WASH	R80.44	38.63
1	54 0251R	SBD	INTERSTATE 15 NB	OPAH DITCH	R126.86	37.27
1	54 0608	SBD	STATE ROUTE 62	DRY MORONGO WASH	0.01	37.17
1	56 0037R	RIV	INTERSTATE 10	COPA DITCH	R113.81	36.49
1	54 0316R	SBD	INTERSTATE 15 NB	IVANPAH DITCH	179.39	36.27
1	56 0150L	RIV	STATE ROUTE 86 SB	COPHY DITCH	1.38	36.11
1	56 0180	RIV	ROUTE 74	STRAWBERRY CREEK	53.45	35.72
1	54 1278R	SBD	INTERSTATE 40	CHUCKWALLA WASH	R97.14	35.67
1	54 0570	SBD	INTERSTATE 10	WEST REDLANDS OH	27.64	35.51
1	54 0472	SBD	INTERSTATE 10	REDLANDS OH	31.52	35.17
1	56 0042L	RIV	INTERSTATE 10	ROLLIE DITCH	R109.72	34.83
1	56 0042R	RIV	INTERSTATE 10	ROLLIE DITCH	R109.72	34.83
1	56 0043L	RIV	INTERSTATE 10	GHOST DITCH	R109.26	34.77
1	56 0043R	RIV	INTERSTATE 10	GHOST DITCH	R109.26	34.77
1	54 1278L	SBD	INTERSTATE 40	CHUCKWALLA WASH	R97.14	34.62
1	54 1248	SBD	STATE ROUTE 83	CHINO CREEK	0.93	34.39
1	54 0316L	SBD	INTERSTATE 15 SB	IVANPAH DITCH	179.39	33.20
1	54 0705R	SBD	INTERSTATE 40	FOX WASH OVERFLOW	R140	33.14
1	54 0700R	SBD	INTERSTATE 40	BUZZARD WASH	R138.26	33.12
1	56 0179	RIV	ROUTE 74	NORTH FORK SAN JACINTO RIVER	50.29	32.93
1	56 0552R	RIV	INTERSTATE 10	BEEHIVE DITCH	R124.23	32.88
1	54 0251L	SBD	INTERSTATE 15	OPAH DITCH	R126.86	32.87
1	54 0700L	SBD	INTERSTATE 40	BUZZARD WASH	R138.26	32.84
1	56 0185	RIV	ROUTE 74	HORSE CREEK	75.66	32.80
1	54 0706R	SBD	INTERSTATE 40	LEMMING WASH	R140.11	32.23
1	56 0545R	RIV	INTERSTATE 10	AZTEC DITCH	R115.4	32.14
1	54 0346	SBD	STATE ROUTE 38	MILL CREEK	9.6	32.13
1	54 0483	SBD	INTERSTATE 15	MOJAVE RIVER	43.86	32.02
1	54 0451	SBD	INTERSTATE 10	SAN ANTONIO WASH	0.32	31.44
1	54 0853L	SBD	INTERSTATE 40 WB	WILLOW SPRINGS WASH	R77.39	30.98
1	56 0150R	RIV	STATE ROUTE 86 NB	COPHY DITCH	1.39	30.82
1	56 0272L	RIV	INTERSTATE 15 SB	WARM SPRINGS CREEK	7.78	30.72
1	56 0552L	RIV	INTERSTATE 10	BEEHIVE DITCH	R124.23	30.67

Priority	Bridge Number	County ⁶	Route	Feature Crossed	Postmile	Cross-Hazard Prioritization Score
1	56 0516R	RIV	STATE ROUTE 62 EB	DEVILS GARDEN CHANNEL	R3.15	30.48

4.2. Large Culverts

A total of 42 large culverts were assessed for vulnerability to more severe riverine flooding associated with climate change. Figure 3 provides a map of all the large culverts potentially exposed to enhanced riverine flooding in the district and colored by their priority level. Given the limited number of large culverts in District 8, it is hard to draw spatial patterns to the vulnerabilities. It is worth noting three of the eight Priority 1 large culverts are identified along Interstate 40 in central San Bernardino County. This is due to these assets having high riverine flooding exposure scores coupled with long detour routes.

Table 5 presents a summary of all the Priority 1 large culverts in District 8 sorted by their cross-hazard prioritization scores. A complete listing of all large culverts ranked by their prioritization scores appears in Table 9 in the appendix.



SR-91 CULVERT AFTER FIRE

TABLE 5: PRIORITY 1 LARGE CULVERTS

Priority	Culvert System Number	County ⁷	Route	Feature Crossed	Postmile	Cross-Hazard Prioritization Score
1	56 0795	RIV	ROUTE 79	SALT CREEK FLOOD CONTROL CHANNEL	R16R	100.00
1	54 1006R	SBD	INTERSTATE 40 EB	EDELWEISS DITCH	R60.8R	73.38
1	54 1006L	SBD	INTERSTATE 40 WB	EDELWEISS DITCH	R60.8L	73.28
1	54 1013L	SBD	INTERSTATE 40 WB	LEEK DITCH	R65.8L	70.50
1	56 0684	RIV	ROUTE 91	WARDLOW WASH	R1.73	66.53
1	54 1149	SBD	STATE ROUTE 210	CUCAMONGA CREEK CHANNEL	3.92	63.71
1	56 0255	RIV	INTERSTATE 10	ITTA WASH	R15.79	59.28
1	56 0607	RIV	SR 79 (WINCHESTER)	RANGE CREEK	R8.94	58.46

4.3. Small Culverts

A total of 635 small culverts were assessed for vulnerability to more severe riverine flooding and wildfire associated with climate change. Figure 4 provides a map of all the small culverts potentially exposed to more severe riverine flooding and wildfire in the district. The small culverts are colored according to their priority level. There are 127 Priority 1 small culverts in District 8.

The map indicates several clusters of high priority small culverts. High priority clusters tend to occur in mountainous road segments, which may be prone to flooding and fire exposure. These clusters include State Routes 18, 38 and 138 in the San Bernardino Mountains, State Routes 243 and 74 near Mount San Jacinto, and Interstate 15 along the Cajon Pass. All the Priority 1 small culverts in these clusters have both high riverine flood and wildfire exposure scores. A secondary cluster of higher priority culverts can be found along the Colorado River Valley near the Arizona border.



DRAINAGE FROM CULVERT ON I-10

Table 6 presents a summary of all the Priority 1 small culverts in District 8 sorted by their cross-hazard prioritization scores. A complete listing of all small culverts ranked by their prioritization scores appears in Table 10 in the appendix.

⁷ RIV = Riverside; SBD = San Bernardino

TABLE 6: PRIORITY 1 SMALL CULVERTS

Priority	Culvert System Number	County ⁸	Route	Postmile	Cross-Hazard Prioritization Score
1	540184003719	SBD	18	37.19	100.00
1	540184003757	SBD	18	37.57	95.67
1	540380002763	SBD	38	27.63	89.11
1	540380003002	SBD	38	30.02	87.83
1	540380102684	SBD	38	26.84	83.89
1	540380102680	SBD	38	26.8	81.90
1	540380003074	SBD	38	30.74	81.64
1	560744005406	RIV	74	54.06	78.59
1	540184003460	SBD	18	34.6	76.48
1	540180003294	SBD	18	32.94	74.68
1	540184003569	SBD	18	35.69	73.73
1	540380002036	SBD	38	20.36	71.98
1	540402013520	SBD	40	135.2	70.54
1	540400013533	SBD	40	135.33	70.32
1	540184006375	SBD	18	63.75	68.76
1	540401213427	SBD	40	134.27	68.76
1	540180003393	SBD	18	33.93	68.58
1	540384004240	SBD	38	42.4	67.53
1	562430001532	RIV	243	15.32	66.39
1	540180006469	SBD	18	64.69	66.30
1	540150101716	SBD	15	17.16	66.15
1	540020000032	SBD	2	0.32	65.87
1	540380005450	SBD	38	54.5	65.72
1	540150101960	SBD	15	19.6	64.84
1	540184004041	SBD	18	40.41	64.81
1	543304004260	SBD	330	42.6	64.30
1	540184006371	SBD	18	63.71	64.26
1	540380005230	SBD	38	52.3	64.22
1	540380005302	SBD	38	53.02	64.16
1	540184006091	SBD	18	60.91	63.77
1	560740007178	RIV	74	71.78	63.55
1	540380005044	SBD	38	50.44	63.42
1	540380005065	SBD	38	50.65	63.41
1	540380004959	SBD	38	49.59	63.05
1	541384002252	SBD	138	22.52	62.90
1	541730001422	SBD	173	14.22	62.70
1	540384004545	SBD	38	45.45	62.69

⁸ RIV = Riverside; SBD = San Bernardino

Priority	Culvert System Number	County ⁸	Route	Postmile	Cross-Hazard Prioritization Score
1	562430000964	RIV	243	9.64	62.55
1	540180004340	SBD	18	43.4	62.29
1	541734001733	SBD	173	17.33	61.51
1	540184006204	SBD	18	62.04	61.24
1	540380002160	SBD	38	21.6	61.09
1	540380002520	SBD	38	25.2	60.79
1	540380002477	SBD	38	24.77	60.75
1	540380002412	SBD	38	24.12	60.63
1	540184105450	SBD	18	54.5	60.15
1	541734002019	SBD	173	20.19	60.09
1	560954002948	RIV	95	29.48	59.69
1	540384103114	SBD	38	31.14	59.68
1	543300001458	SBD	330	14.58	59.65
1	543300003810	SBD	330	38.1	59.64
1	562430001195	RIV	243	11.95	59.59
1	540180004618	SBD	18	46.18	59.52
1	562430000591	RIV	243	5.91	59.49
1	540384004523	SBD	38	45.23	59.44
1	562430000875	RIV	243	8.75	59.39
1	540380001560	SBD	38	15.6	59.23
1	540380005378	SBD	38	53.78	59.21
1	560954003007	RIV	95	30.07	59.18
1	540150101585	SBD	15	15.85	59.16
1	540380001637	SBD	38	16.37	59.12
1	540380002595	SBD	38	25.95	59.05
1	540380005412	SBD	38	54.12	59.05
1	543304003625	SBD	330	36.25	59.04
1	540384104860	SBD	38	48.6	58.97
1	541380102589	SBD	138	25.89	58.69
1	540180005254	SBD	18	52.54	58.64
1	540380005343	SBD	38	53.43	58.60
1	562430001124	RIV	243	11.24	58.59
1	540150101830	SBD	15	18.3	58.44
1	540384104896	SBD	38	48.96	58.28
1	540384003145	SBD	38	31.45	58.27
1	540384004575	SBD	38	45.75	58.26
1	540384104700	SBD	38	47	58.14
1	540380002195	SBD	38	21.95	58.14
1	541890000330	SBD	189	3.3	58.12
1	540380002253	SBD	38	22.53	58.09

Priority	Culvert System Number	County ⁸	Route	Postmile	Cross-Hazard Prioritization Score
1	540380002228	SBD	38	22.28	58.00
1	540384003213	SBD	38	32.13	58.00
1	540380002100	SBD	38	21	58.00
1	541384002310	SBD	138	23.1	57.93
1	540384003517	SBD	38	35.17	57.89
1	540152102328	SBD	15	23.28	57.71
1	562430001201	RIV	243	12.01	57.63
1	540380001837	SBD	38	18.37	57.44
1	540384003391	SBD	38	33.91	57.44
1	540180004692	SBD	18	46.92	57.39
1	540384004142	SBD	38	41.42	57.31
1	540384004057	SBD	38	40.57	57.28
1	540384004091	SBD	38	40.91	57.27
1	540380005845	SBD	38	58.45	57.22
1	540380003883	SBD	38	38.83	56.88
1	540624013410	SBD	62	134.1	56.83
1	540180004485	SBD	18	44.85	56.72
1	541384102681	SBD	138	26.81	56.71
1	543304003143	SBD	330	31.43	56.68
1	540400113883	SBD	40	138.83	56.61
1	540180004747	SBD	18	47.47	56.49
1	540180004548	SBD	18	45.48	56.35
1	541380001196	SBD	138	11.96	56.27
1	541380000919	SBD	138	9.19	55.93
1	541380000372	SBD	138	3.72	55.87
1	562430000518	RIV	243	5.18	55.75
1	540150102219	SBD	15	22.19	55.66
1	540624013445	SBD	62	134.45	55.66
1	540150102235	SBD	15	22.35	55.65
1	540380001748	SBD	38	17.48	55.64
1	560740005886	RIV	74	58.86	55.61
1	540020000218	SBD	2	2.18	55.54
1	562430000475	RIV	243	4.75	55.41
1	541380000227	SBD	138	2.27	55.36
1	540150101830	SBD	15	18.3	55.35
1	540150102206	SBD	15	22.06	55.22
1	540154102304	SBD	15	23.04	55.06
1	540380002374	SBD	38	23.74	55.04
1	560744106309	RIV	74	63.09	54.97
1	560106109023	RIV	10	90.23	54.92

Priority	Culvert System Number	County ⁸	Route	Postmile	Cross-Hazard Prioritization Score
1	540184006431	SBD	18	64.31	54.92
1	541380102733	SBD	138	27.33	54.90
1	543304003491	SBD	330	34.91	54.75
1	560740007480	RIV	74	74.8	54.69
1	562430000165	RIV	243	1.65	54.68
1	560740007726	RIV	74	77.26	54.65
1	541384000574	SBD	138	5.74	54.65
1	541730700581	SBD	173	5.81	54.64
1	562434001933	RIV	243	19.33	54.64
1	540624013420	SBD	62	134.2	54.53

4.4. Roadways

A total of 5,277 roadway segments were assessed for vulnerability to temperature changes that affect pavement performance. All these segments are potentially exposed to temperature changes that could result in the need to change pavement binder grades from current specifications. To make the analysis as detailed as possible, the original segments were short with beginning and end points at intersections with other streets (including smaller local streets) in the roadway network. Once the processing of vulnerability scores was complete, smaller segments sharing the same priority score as their neighbors on the same route were consolidated into longer segments to simplify the presentation of the results. This reduced the number of segments to those presented here.

Figure 5 provides a map of all the consolidated roadway segments potentially exposed to pavement degrading temperature changes in the district. Each segment of roadway is colored according to the priority level. There are 79 Priority 1 roadways in District 8. The map shows that roadways in southwestern Riverside County should be the highest priority for binder grade adjustments. The high-level analysis of pavement binder grades showed that many of these roads may need changes to binder grades in the near term to avert declines in pavement performance as temperatures continue to rise with climate change. Table 7 presents a summary of all the Priority 1 roadways in District 8 sorted by their cross-hazard prioritization scores. A complete listing of all roadways ranked by their prioritization scores appears in Table 11 in the appendix.



SR-173 FLOODING

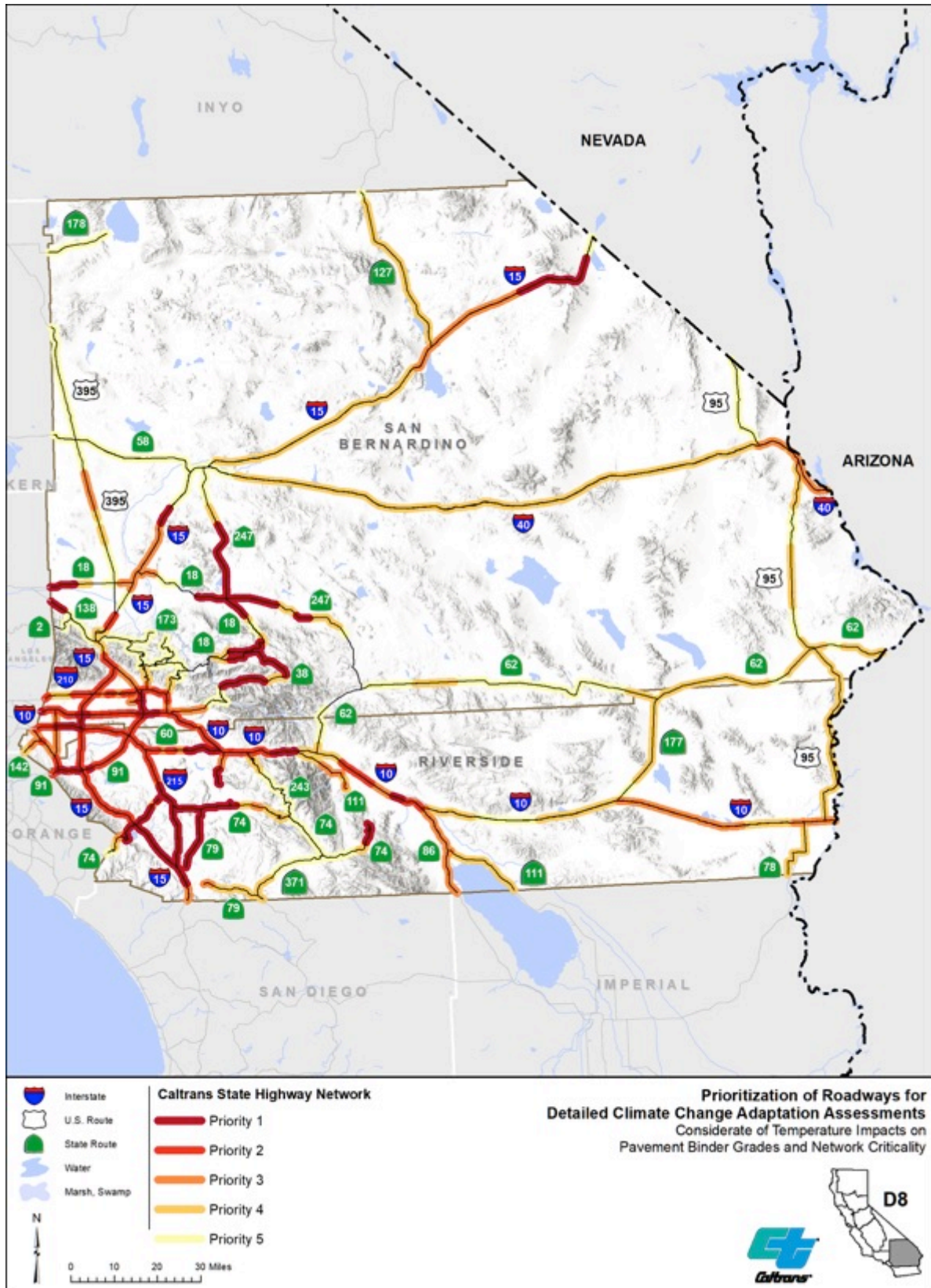


FIGURE 5: PRIORITIZATION OF ROADWAYS FOR DETAILED ADAPTATION ASSESSMENTS

TABLE 7: PRIORITY 1 ROADWAYS

Priority	Route	Carriageway ⁹	From County & Postmile / To County & Postmile ¹⁰	Average Cross-Hazard Prioritization Score ¹¹
1	215	P	RIV 215 R8.43 / RIV 215 R29.396	93.00
1	215	P	SBD 215 3.845 / SBD 215 8.572	93.00
1	215	S	RIV 215 R8.43 / RIV 215 R29.406	92.83
1	215	S	SBD 215 3.844 / SBD 215 8.539	92.83
1	15	S	RIV 15 10.039 / RIV 15 21.996	90.67
1	15	S	RIV 15 4.76 / RIV 15 9.285	90.67
1	15	S	RIV 15 51.472 / SBD 15 1.013	90.67
1	15	S	SBD 15 161.321 / SBD 15 181.154	90.67
1	15	S	SBD 15 56.317 / SBD 15 59.91	90.67
1	10	P	LA 10 48.264 / SBD 10 0.01	89.78
1	10	P	RIV 10 50.45 / RIV 10 R52.473	89.78
1	10	P	RIV 10 R19.394 / RIV 10 R24.346	89.78
1	10	P	SBD 10 9.178 / SBD 10 11.132	89.78
1	10	P	SBD 10 R23.244 / SBD 10 27.309	89.78
1	10	S	RIV 10 50.451 / RIV 10 R52.474	88.89
1	10	S	RIV 10 R19.742 / RIV 10 R24.555	88.89
1	10	S	SBD 10 0.005 / SBD 10 0.015	88.89
1	10	S	SBD 10 9.178 / SBD 10 11.133	88.89
1	10	S	SBD 10 R23.236 / SBD 10 27.309	88.89
1	15	P	RIV 15 10.033 / RIV 15 22.273	88.63
1	15	P	RIV 15 4.124 / RIV 15 9.465	88.63
1	15	P	RIV 15 51.465 / SBD 15 1.017	88.63
1	15	P	SBD 15 161.387 / SBD 15 181.126	88.63
1	15	P	SBD 15 56.261 / SBD 15 60.159	88.63
1	66	P	SBD 66 22.413 / SBD 66 23.156	88.26
1	66	P	SBD 66 S23.408 / SBD 66 S23.156	88.26
1	74	P	RIV 74 13.485 / RIV 74 R14.62	86.76
1	74	P	RIV 74 18.924 / RIV 74 22.939	86.76
1	74	P	RIV 74 25.089 / RIV 74 25.747	86.76
1	74	P	RIV 74 27.321 / RIV 74 27.53	86.76
1	74	P	RIV 74 27.54 / RIV 74 42.59	86.76
1	74	P	RIV 74 84.045 / RIV 74 R92.34	86.76
1	74	P	RIV 74 9.512 / RIV 74 12.102	86.76
1	74	S	RIV 74 13.518 / RIV 74 R14.206	86.37
1	74	S	RIV 74 18.72 / RIV 74 22.937	86.37

⁹ Caltrans’ alignment codes designate the carriageway on divided roadways: “P” always represents northbound or eastbound carriageways whereas “S” always represents southbound or westbound carriageways. Undivided roadways are always indicated with a “P”.

¹⁰ RIV = Riverside; SBD = San Bernardino

¹¹ These values represent the average of the cross-hazard prioritization scores amongst all the abutting small segments on the same route sharing a common priority level that were aggregated to form the longer segments listed in this table.

Priority	Route	Carriageway ⁹	From County & Postmile / To County & Postmile ¹⁰	Average Cross-Hazard Prioritization Score ¹¹
1	74	S	RIV 74 25.089 / RIV 74 25.747	86.37
1	74	S	RIV 74 27.321 / RIV 74 27.53	86.37
1	74	S	RIV 74 27.54 / RIV 74 29.97	86.37
1	74	S	RIV 74 31.299 / RIV 74 34.965	86.37
1	74	S	RIV 74 35.922 / RIV 74 36.031	86.37
1	74	S	RIV 74 37.429 / RIV 74 40.84	86.37
1	74	S	RIV 74 41.087 / RIV 74 42.59	86.37
1	18	S	SBD 18 51.61 / SBD 18 R48.925	86.13
1	18	S	SBD 18 53.526 / SBD 18 53.388	86.13
1	18	S	SBD 18 75.196 / SBD 18 74.893	86.13
1	18	S	SBD 18 75.642 / SBD 18 75.349	86.13
1	79	P	RIV 79 25.65 / RIV 79 26.401	86.00
1	79	P	RIV 79 M31.827 / RIV 79 R36.131	86.00
1	79	P	RIV 79 R4.228 / RIV 79 R19.158	86.00
1	18	P	LA 18 0.001 / SBD 18 110.213	85.88
1	18	P	SBD 18 58.308 / SBD 18 47.09	85.88
1	18	P	SBD 18 80.371 / SBD 18 68.219	85.88
1	79	S	RIV 79 25.65 / RIV 79 26.401	85.68
1	79	S	RIV 79 M33.768 / RIV 79 R36.131	85.68
1	79	S	RIV 79 R14.969 / RIV 79 R15.715	85.68
1	79	S	RIV 79 R4.228 / RIV 79 R12.584	85.68
1	38	P	SBD 38 20.569 / SBD 38 32.427	85.47
1	38	P	SBD 38 38.546 / SBD 38 49.52	85.47
1	38	P	SBD 38 49.53 / SBD 38 55.181	85.47
1	66	S	SBD 66 22.413 / SBD 66 22.86	85.39
1	138	P	LA 138 74.971 / SBD 138 3.611	85.05
1	138	S	SBD 138 0.965 / SBD 138 1.44	84.69
1	138	S	SBD 138 2.726 / SBD 138 2.959	84.69
1	247	P	SBD 247 24.115 / SBD 247 27.226	84.37
1	247	P	SBD 247 33.01 / SBD 247 45.116	84.37
1	247	P	SBD 247 44.86 / SBD 247 45.116	84.37
1	247	P	SBD 247 45.116 / SBD 247 44.836	84.37
1	247	P	SBD 247 45.116 / SBD 247 63.938	84.37
1	60	S	RIV 60 22.096 / RIV 60 29.667	77.94
1	60	S	SBD 60 R4.593 / SBD 60 R9.958	77.94
1	60	P	RIV 60 22.287 / RIV 60 27.763	77.87
1	60	P	SBD 60 R4.594 / SBD 60 R0.004	77.87
1	71	P	RIV 71 R3.018 / RIV 71 2.821	74.34
1	91	P	RIV 91 5.189 / RIV 91 6.364	70.93
1	91	P	RIV 91 8.943 / RIV 91 9.189	70.93

Priority	Route	Carriageway ⁹	From County & Postmile / To County & Postmile ¹⁰	Average Cross-Hazard Prioritization Score ¹¹
1	91	P	RIV 91 R2.094 / RIV 91 R3.347	70.93
1	91	S	RIV 91 5.074 / RIV 91 6.365	70.85
1	91	S	RIV 91 8.988 / RIV 91 9.187	70.85
1	91	S	RIV 91 R2.063 / RIV 91 R3.307	70.85

5. NEXT STEPS

This report has identified the bridge, large culvert, small culvert, and roadway assets exposed to a variety of climate hazards in District 8 and assigned them priority levels for detailed assessments based on their vulnerability rating. Caltrans' next step will be to begin undertaking these detailed adaptation assessments for the identified assets starting with the highest priority (Priority 1) assets first and then proceeding to lower priority assets thereafter. These detailed adaptation assessments will take a closer look at the exposure to each asset using more localized climate projections and more detailed engineering analyses. If impacts are verified, Caltrans will develop and evaluate adaptation options for the asset to ensure that it is able to withstand future climate changes. Importantly, the detailed adaptation assessment will include coordination with key stakeholder groups whose actions affect or are affected by the asset and its adaptation.

Another next step will be to integrate the prioritization measures into the asset management system used in the district. This will ensure that climate change is a consideration in the identification of future projects alongside traditional asset condition metrics. As noted previously, assets identified for capital investments, especially those flagged as being a high priority for climate change, should then undergo detailed climate change assessments prior to project programming.

Finally, district staff can use the results of this study as a starting point to begin discussions with various important stakeholders in the district about addressing climate change and its impacts. This includes state and federal environmental agencies, the National Forest Service, forest product companies (major landowners in the district whose actions directly affect the road network), and others. Multi-agency stakeholder coordination and involvement of the private sector are essential because the impacts from climate change, and ability to effectively address those impacts, cross both jurisdictional and ownership boundaries. For example, Caltrans could increase the size of a culvert to accommodate higher stormwater and debris flows while the more cost-effective solution may be better land management in the adjacent drainage area. The approach to climate change cannot just be Caltrans-centric. A common framework across all state agencies must be established for truly effective long-term solutions to be achieved.

6. APPENDIX

TABLE 8: PRIORITIZATION OF BRIDGES FOR DETAILED CLIMATE CHANGE ADAPTATION ASSESSMENTS

Priority	Bridge Number	County ¹²	Route	Feature Crossed	Postmile	Cross-Hazard Prioritization Score
1	56 0004R	RIV	INTERSTATE 10 EB	WHITEWATER RIVER	27.69	100.00
1	56 0004L	RIV	INTERSTATE 10 WB	WHITEWATER RIVER	27.69	97.48
1	54 0858	SBD	STATE HIGHWAY 138	SAWPIT CANYON	R28.07	64.34
1	54 0799R	SBD	INTERSTATE 40	HALFWAY HILLS WASH	R101.33	61.83
1	54 0799L	SBD	INTERSTATE 40	HALFWAY HILLS WASH	R101.33	57.79
1	56 0163R	RIV	STATE ROUTE 86 NB	TRAVERTINE DITCH	0.09	55.32
1	56 0097R	RIV	INTERSTATE 10	WIDE DITCH	R101.14	52.30
1	56 0099L	RIV	INTERSTATE 10	ADAIR DITCH	R100.38	50.60
1	54 0859	SBD	STATE HIGHWAY 138	BURNT MILL CANYON	R29.38	50.02
1	54 0204R	SBD	INTERSTATE 40	ARBOL DITCH	R129.82	47.39
1	54 0204L	SBD	INTERSTATE 40	ARBOL DITCH	R129.78	47.36
1	54 0360	SBD	STATE HIGHWAY 2	SHEEP CREEK	2.44	46.99
1	54 0860	SBD	STATE HIGHWAY 138	SEELEY CREEK	R29.96	46.70
1	56 0830	RIV	STATE ROUTE 78	PALO VERDE DRAIN	3.28	46.54
1	56 0193L	RIV	STATE ROUTE 111 SB	CHINO CREEK	55.88	46.16
1	56 0789	RIV	STATE ROUTE 243	STRAWBERRY CREEK	3.98	46.07
1	56 0550R	RIV	INTERSTATE 10	ACARI DITCH	R122.15	45.04
1	54 0846	SBD	STATE HIGHWAY 138	WEST FORK MOJAVE RIVER	R26.48	43.52
1	56 0576L	RIV	INTERSTATE 10	TEX WASH	R102.63	43.34
1	56 0123L	RIV	INTERSTATE 10	ORRIS DITCH	R91.92	42.89
1	56 0550L	RIV	INTERSTATE 10	ACARI DITCH	R122.15	42.78
1	56 0122L	RIV	INTERSTATE 10	KRUME DITCH	R92.9	42.64
1	56 0511L	RIV	INTERSTATE 10 WB	EAST CACTUS CITY UC	R74.83	41.97
1	54 0848R	SBD	INTERSTATE 40 EB	SIBERIA WASH	R65.59R	41.96
1	56 0511R	RIV	INTERSTATE 10	EAST CACTUS CITY UC	R74.83	41.85
1	56 0039L	RIV	INTERSTATE 10	META DITCH	R110.99	41.29
1	56 0039R	RIV	INTERSTATE 10	META DITCH	R110.99	41.29
1	56 0123R	RIV	INTERSTATE 10	ORRIS DITCH	R91.92	41.27
1	56 0122R	RIV	INTERSTATE 10	KRUME DITCH	R92.9	41.03

¹² RIV = Riverside; SBD = San Bernardino

Priority	Bridge Number	County ¹²	Route	Feature Crossed	Postmile	Cross-Hazard Prioritization Score
1	56 0015L	RIV	INTERSTATE 10	ISORA DITCH	R139.18	40.99
1	56 0015R	RIV	INTERSTATE 10	ISORA DITCH	R139.18	40.98
1	56 0016R	RIV	INTERSTATE 10	MCCOY WASH	R138.29	40.60
1	56 0016L	RIV	INTERSTATE 10	MCCOY WASH	R138.29	40.60
1	54 1274L	SBD	INTERSTATE 40 WB	MARBLE WASH	R80.42	39.93
1	56 0044R	RIV	INTERSTATE 10	QUARTZ DITCH	R108.28	39.91
1	56 0044L	RIV	INTERSTATE 10	QUARTZ DITCH	R108.28	39.91
1	56 0605R	RIV	INTERSTATE 10 EB	COTTONWOOD CREEK	R25.44	39.69
1	56 0605L	RIV	INTERSTATE 10 WB	COTTONWOOD CREEK	R25.44	39.10
1	54 1274R	SBD	INTERSTATE 40 EB	MARBLE WASH	R80.44	38.63
1	54 0251R	SBD	INTERSTATE 15 NB	OPAH DITCH	R126.86	37.27
1	54 0608	SBD	STATE ROUTE 62	DRY MORONGO WASH	0.01	37.17
1	56 0037R	RIV	INTERSTATE 10	COPA DITCH	R113.81	36.49
1	54 0316R	SBD	INTERSTATE 15 NB	IVANPAH DITCH	179.39	36.27
1	56 0150L	RIV	STATE ROUTE 86 SB	COPHY DITCH	1.38	36.11
1	56 0180	RIV	ROUTE 74	STRAWBERRY CREEK	53.45	35.72
1	54 1278R	SBD	INTERSTATE 40	CHUCKWALLA WASH	R97.14	35.67
1	54 0570	SBD	INTERSTATE 10	WEST REDLANDS OH	27.64	35.51
1	54 0472	SBD	INTERSTATE 10	REDLANDS OH	31.52	35.17
1	56 0042L	RIV	INTERSTATE 10	ROLLIE DITCH	R109.72	34.83
1	56 0042R	RIV	INTERSTATE 10	ROLLIE DITCH	R109.72	34.83
1	56 0043L	RIV	INTERSTATE 10	GHOST DITCH	R109.26	34.77
1	56 0043R	RIV	INTERSTATE 10	GHOST DITCH	R109.26	34.77
1	54 1278L	SBD	INTERSTATE 40	CHUCKWALLA WASH	R97.14	34.62
1	54 1248	SBD	STATE ROUTE 83	CHINO CREEK	0.93	34.39
1	54 0316L	SBD	INTERSTATE 15 SB	IVANPAH DITCH	179.39	33.20
1	54 0705R	SBD	INTERSTATE 40	FOX WASH OVERFLOW	R140	33.14
1	54 0700R	SBD	INTERSTATE 40	BUZZARD WASH	R138.26	33.12
1	56 0179	RIV	ROUTE 74	NORTH FORK SAN JACINTO RIVER	50.29	32.93
1	56 0552R	RIV	INTERSTATE 10	BEEHIVE DITCH	R124.23	32.88
1	54 0251L	SBD	INTERSTATE 15	OPAH DITCH	R126.86	32.87
1	54 0700L	SBD	INTERSTATE 40	BUZZARD WASH	R138.26	32.84
1	56 0185	RIV	ROUTE 74	HORSE CREEK	75.66	32.80
1	54 0706R	SBD	INTERSTATE 40	LEMMING WASH	R140.11	32.23
1	56 0545R	RIV	INTERSTATE 10	AZTEC DITCH	R115.4	32.14
1	54 0346	SBD	STATE ROUTE 38	MILL CREEK	9.6	32.13
1	54 0483	SBD	INTERSTATE 15	MOJAVE RIVER	43.86	32.02
1	54 0451	SBD	INTERSTATE 10	SAN ANTONIO WASH	0.32	31.44

Priority	Bridge Number	County ¹²	Route	Feature Crossed	Postmile	Cross-Hazard Prioritization Score
1	54 0853L	SBD	INTERSTATE 40 WB	WILLOW SPRINGS WASH	R77.39	30.98
1	56 0150R	RIV	STATE ROUTE 86 NB	COPHY DITCH	1.39	30.82
1	56 0272L	RIV	INTERSTATE 15 SB	WARM SPRINGS CREEK	7.78	30.72
1	56 0552L	RIV	INTERSTATE 10	BEEHIVE DITCH	R124.23	30.67
1	56 0516R	RIV	STATE ROUTE 62 EB	DEVILS GARDEN CHANNEL	R3.15	30.48
2	56 0215	RIV	INTERSTATE 10 EB	MIDDLE FORK SAN TIMOTEO CREEK	R5.71	30.43
2	54 0359	SBD	STATE ROUTE 2	SWARTHOUT CREEK	1	30.34
2	56 0045R	RIV	INTERSTATE 10	COXCOMB DITCH	R106.63	30.15
2	56 0045L	RIV	INTERSTATE 10	COXCOMB DITCH	R106.63	30.15
2	56 0446	RIV	ROUTE 91	TEMESCAL WASH BOH	6.93	30.15
2	56 0182	RIV	ROUTE 74	ANTSSELL ROCK CREEK	63.45	30.05
2	56 0545L	RIV	INTERSTATE 10	AZTEC DITCH	R115.4	29.93
2	56 0296	RIV	INTERSTATE 215	SAN JACINTO RIVER	25.1	29.74
2	56 0153R	RIV	STATE ROUTE 86 NB	OTAN DITCH	0.99	29.63
2	56 0153L	RIV	STATE ROUTE 86 SB	OTAN DITCH	0.99	29.63
2	56 0677R	RIV	INTERSTATE 15 NB	INDIAN WASH	30.09	29.61
2	54 0315R	SBD	INTERSTATE 15 NB	WHEATON SPRINGS WASH	174.71	29.57
2	56 0677L	RIV	INTERSTATE 15 SB	INDIAN WASH	30.09	29.55
2	56 0047L	RIV	INTERSTATE 15 SB	TEMECULA RIVER	R2.96	29.33
2	56 0678L	RIV	INTERSTATE 15 SB	HORSETHIEF CANYON WASH	29.13	29.22
2	54 1282R	SBD	I-40	WATSON WASH	R105.9	29.19
2	56 0529R	RIV	INTERSTATE 10 EB	MILLARD CANYON WASH	R20.15	28.97
2	56 0272R	RIV	INTERSTATE 15 NB	WARM SPRINGS CREEK	7.78	28.92
2	56 0178	RIV	ROUTE 74	SAN JACINTO RIVER	49.16	28.85
2	56 0529L	RIV	INTERSTATE 10 WB	MILLARD CANYON WASH	R20.15	28.80
2	54 0874	SBD	STATE HIGHWAY 173	CEDAR SPRINGS SPILLWAY	L1.92	28.77
2	54 0307	SBD	STATE ROUTE 18	MOJAVE RIVER BOH	95.35	28.68
2	56 0165	RIV	INTERSTATE 10	MISSION CREEK	34.73	28.49
2	56 0726R	RIV	INTERSTATE 15 NB	GAVILAN WASH	25.55	28.34
2	56 0726L	RIV	INTERSTATE 15 SB	GAVILAN WASH	25.55	28.31
2	56 0678R	RIV	INTERSTATE 15 NB	HORSETHIEF CANYON WASH	29.13	28.23
2	56 0065	RIV	ROUTE 60	SAN TIMOTEO CREEK	28.34	27.77
2	54 0015	SBD	STATE ROUTE 38	HATHAWAY CREEK	26.58	27.67
2	54 0802R	SBD	INTERSTATE 40 EB	NEWTON WASH	R103.39	27.62

Priority	Bridge Number	County ¹²	Route	Feature Crossed	Postmile	Cross-Hazard Prioritization Score
2	56 0533R	RIV	STATE ROUTE 62 EB	MISSION CHANNEL OVERFLOW	R5.62	27.54
2	56 0680L	RIV	INTERSTATE 15 SB	TEMESCAL WASH	28.04	27.52
2	56 0184	RIV	STATE ROUTE 74	SOUTH FORK SAN JACINTO RIVER	63.76	27.50
2	56 0540L	RIV	INTERSTATE 15 SB	BEDFORD WASH	36.58	27.49
2	56 0533L	RIV	STATE ROUTE 62 WB	MISSION CHANNEL OVERFLOW	R5.62	27.40
2	56 0156R	RIV	STATE ROUTE 86 NB	SUGINO DITCH	0.66	27.26
2	54 0345	SBD	STATE HIGHWAY 330	EAST FORK CITY CREEK	33.68	27.16
2	54 0801R	SBD	INTERSTATE 40	BLACK CANYON WASH	R102.18	27.05
2	56 0540R	RIV	INTERSTATE 15 NB	BEDFORD WASH	36.58	27.02
2	56 0680R	RIV	INTERSTATE 15 NB	TEMESCAL WASH	28.04	26.99
2	56 0190	RIV	STATE ROUTE 79	TEMECULA CREEK	14.43	26.99
2	56 0167R	RIV	INTERSTATE 10 EB	WEST CHANNEL STUBBY WASH	R24.2	26.96
2	56 0168R	RIV	INTERSTATE 10 EB	EAST CHANNEL STUBBY WASH	R24.24	26.96
2	54 1046	SBD	STATE ROUTE 38	MOUNTAIN HOME CREEK	R12.28	26.86
2	56 0167L	RIV	INTERSTATE 10 WB	WEST CHANNEL STUBBY WASH	R24.2	26.80
2	56 0168L	RIV	INTERSTATE 10 WB	EAST CHANNEL STUBBY WASH	R24.24	26.80
2	56 0241L	RIV	STATE ROUTE 111 SB	WHITEWATER RIVER OVERFLOW	R60.55	26.45
2	54 0850R	SBD	INTERSTATE 40 EB	OLD DAD WASH	R74.51	26.37
2	54 0798R	SBD	INTERSTATE 40	BLIND HILLS WASH	R100.48	26.36
2	54 0270L	SBD	INTERSTATE 15 SB	OAT DITCH	R130.58	26.35
2	56 0515L	RIV	STATE ROUTE 62 WB	PAINTED HILLS CHANNEL	R1.09	26.33
2	56 0515R	RIV	STATE ROUTE 62 EB	PAINTED HILLS CHANNEL	R1.09	26.32
2	56 0118L	RIV	INTERSTATE 10	TECKA DITCH	R94.73	26.31
2	56 0003	RIV	INTERSTATE 10	SAN GORGONIO WASH	R16.14	26.29
2	54 0852R	SBD	INTERSTATE 40 EB	GRANITE MOUNTAIN WASH	R76.5	26.23
2	54 0991	SBD	STATE ROUTE 62	MWD SPILLWAY	108.03	26.19
2	54 0852L	SBD	INTERSTATE 40 WB	GRANITE MOUNTAIN WASH	R76.5	26.18
2	56 0241R	RIV	STATE ROUTE 111 NB	WHITEWATER RIVER OVERFLOW	R60.55	26.18
2	56 0194L	RIV	STATE ROUTE 111 SB	SNOW CREEK	R60.04L	26.16
2	54 0804R	SBD	INTERSTATE 40	WOODS WASH	R104.89	26.14
2	54 0850L	SBD	INTERSTATE 40 WB	OLD DAD WASH	R74.51	25.99
2	56 0097L	RIV	INTERSTATE 10	WIDE DITCH	R101.14	25.96

Priority	Bridge Number	County ¹²	Route	Feature Crossed	Postmile	Cross-Hazard Prioritization Score
2	56 0516L	RIV	STATE ROUTE 62 WB	DEVILS GARDEN CHANNEL	R3.15	25.78
2	54 0599	SBD	INTERSTATE 10	SAN TIMOTEO CREEK	25.54	25.49
2	54 0895L	SBD	INTERSTATE 40	CLIPPER VALLEY WASH	R99.09	25.33
2	56 0149R	RIV	STATE ROUTE 86 NB	MEMEL DITCH	1.58	25.31
2	56 0543R	RIV	INTERSTATE 15 NB	COLDWATER WASH	32.96	25.15
2	56 0543L	RIV	INTERSTATE 15 SB	COLDWATER WASH	32.96	25.11
2	54 0315L	SBD	INTERSTATE 15 SB	WHEATON SPRINGS WASH	174.7	24.88
2	54 0454L	SBD	INTERSTATE 10 WB	ETIWANDA-SN SEVN FLOOD CNTL CHANNEL	11.64	24.82
2	56 0223	RIV	ROUTE 95	"C" CANAL	6.1	24.54
2	54 1275L	SBD	INTERSTATE 40	FORTRESS WASH	R90.53	24.48
2	54 1275R	SBD	INTERSTATE 40	FORTRESS WASH	R90.52	24.48
3	54 0894L	SBD	INTERSTATE 40	ROJO WASH	R98.3	24.37
3	54 0438L	SBD	INTERSTATE 10	CUCAMONGA WASH	6.7	24.34
3	56 0118R	RIV	INTERSTATE 10	TECKA DITCH	R94.75	24.27
3	54 0758L	SBD	INTERSTATE 40 WB	ASH HILL WASH	R54.75L	24.27
3	54 0758R	SBD	INTERSTATE 40 EB	ASH HILL WASH	R54.77R	24.27
3	54 0454R	SBD	INTERSTATE 10 EB	ETIWANDA-SN SEVN FLOOD CNTL CHANNEL	11.64	24.19
3	54 0438R	SBD	INTERSTATE 10	CUCAMONGA WASH	6.7	24.10
3	56 0188	RIV	STATE ROUTE 79	TEMECULA CREEK	7.07	24.09
3	54 0407	SBD	STATE ROUTE 38	SANTA ANA RIVER	30.86	24.05
3	54 1277L	SBD	INTERSTATE 40	MACDONALD WASH	R94.37	23.91
3	54 1277R	SBD	INTERSTATE 40	MACDONALD WASH	R94.37	23.91
3	54 0802L	SBD	INTERSTATE 40	NEWTON WASH	R103.39	23.78
3	56 0189	RIV	STATE ROUTE 79	ARROYO SECO	9.34	23.75
3	56 0490	RIV	STATE ROUTE 371	CAHUILLA CREEK	65.44	23.74
3	54 0889R	SBD	INTERSTATE 40	HOFF WASH	R93.6	23.74
3	54 0889L	SBD	INTERSTATE 40	HOFF WASH	R93.65	23.74
3	56 0556R	RIV	INTERSTATE 10	WALLA DITCH	R129.51	23.73
3	56 0129R	RIV	INTERSTATE 10	THREE STAR DITCH	R87.96	23.60
3	56 0711	RIV	STATE ROUTE 243	LAKE FULMOR	14.48	23.57
3	56 0129L	RIV	INTERSTATE 10	THREE STAR DITCH	R87.96	23.55
3	56 0183	RIV	ROUTE 74	SERVO CREEK	63.55	23.52
3	54 0853R	SBD	INTERSTATE 40 EB	WILLOW SPRINGS WASH	R77.37	23.45
3	54 0621L	SBD	INTERSTATE 15 SB	WHEATON WASH	173.84L	23.42
3	56 0273R	RIV	INTERSTATE 10	GARNET CREEK	32.35	23.41
3	56 0273L	RIV	INTERSTATE 10	GARNET CREEK	32.35	23.35

Priority	Bridge Number	County ¹²	Route	Feature Crossed	Postmile	Cross-Hazard Prioritization Score
3	56 0112R	RIV	INTERSTATE 10	AJAX DITCH	R96.83	23.27
3	56 0156L	RIV	STATE ROUTE 86 SB	SUGINO DITCH	0.66	23.20
3	54 0270R	SBD	INTERSTATE 15 NB	OAT DITCH	R130.59	23.20
3	54 0801L	SBD	INTERSTATE 40	BLACK CANYON WASH	R102.18	23.20
3	56 0559L	RIV	INTERSTATE 15 SB	BROWN CANYON WASH	34.72	22.82
3	56 0111R	RIV	INTERSTATE 10	SHANTY DITCH	R97.33	22.80
3	56 0111L	RIV	INTERSTATE 10	SHANTY DITCH	R97.33	22.72
3	56 0099R	RIV	INTERSTATE 10	ADAIR DITCH	R100.38	22.58
3	54 0798L	SBD	INTERSTATE 40	BLIND HILLS WASH	R100.45	22.52
3	54 0757L	SBD	INTERSTATE 40 WB	BROADWELL WASH	R54.09	22.48
3	56 0109R	RIV	INTERSTATE 10	UNION DITCH	R97.81	22.44
3	54 0757R	SBD	INTERSTATE 40 EB	BROADWELL WASH	R54.09	22.42
3	56 0109L	RIV	INTERSTATE 10	UNION DITCH	R97.81	22.36
3	54 0703L	SBD	INTERSTATE 40	COYOTE WASH	R139.23	22.33
3	54 0705L	SBD	INTERSTATE 40	FOX WASH OVERFLOW	R140	22.32
3	54 0804L	SBD	INTERSTATE 40	WOODS WASH	R104.9	22.30
3	54 0840	SBD	STATE ROUTE 60	CUCAMONGA CREEK	R7.52	22.06
3	54 0805L	SBD	INTERSTATE 40 WB	WATSON WASH	R105.9	21.98
3	56 0113L	RIV	INTERSTATE 10	IROLO DITCH	R96.5	21.85
3	54 1298L	SBD	INTERSTATE 40	VAN WINKLE WASH	R85.19	21.70
3	54 1298R	SBD	INTERSTATE 40	VAN WINKLE WASH	R85.21	21.68
3	54 1127R	SBD	STATE HWY 71 SB	CHINO CREEK CHANNEL	R1.4	21.66
3	54 0706L	SBD	INTERSTATE 40	LEMMING WASH	R140.11	21.62
3	54 0561	SBD	STATE HIGHWAY 138	CAJON CREEK	R14.94	21.54
3	54 0934R	SBD	STATE ROUTE 210 EB	SANTA ANA RIVER	R31.16	21.54
3	56 0113R	RIV	INTERSTATE 10	IROLO DITCH	R96.5	21.52
3	54 0668R	SBD	INTERSTATE 40	WHALE MOUNTAIN WASH	R152.12	21.47
3	54 0668L	SBD	INTERSTATE 40	WHALE MOUNTAIN WASH	R152.12	21.39
3	54 0934L	SBD	STATE ROUTE 210 WB	SANTA ANA RIVER	R31.16	21.32
3	56 0149L	RIV	STATE ROUTE 86 SB	MEMEL DITCH	1.58	21.11
3	56 0556L	RIV	INTERSTATE 10	WALLA DITCH	R129.51	21.10
3	56 0784	RIV	Route 74	LAKE ELSINORE OUTLET CHANNEL	R15.36	20.93
3	54 1081R	SBD	STATE ROUTE 210 EB	CITY CREEK	R29.98	20.91
3	54 0737L	SBD	INTERSTATE 40 WB	ARGOS WASH	R43.84	20.81

Priority	Bridge Number	County ¹²	Route	Feature Crossed	Postmile	Cross-Hazard Prioritization Score
3	56 0773	RIV	SR 111 GENE AUTRY	PALM CANYON WASH	T48.32	20.79
3	54 0292L	SBD	INTERSTATE 10 WB	SANTA ANA RIVER	R23.83	20.63
3	54 0704L	SBD	INTERSTATE 40	FOX WASH	R139.82	20.46
3	54 1075L	SBD	STATE ROUTE 210 WB	SAND CREEK	R27.24	20.38
3	54 1075R	SBD	STATE ROUTE 210 EB	SAND CREEK	R27.24	20.38
3	56 0170	RIV	ROUTE 74	DECKER CANYON	3.5	20.38
3	54 0712L	SBD	INTERSTATE 40	BLOSSOM WASH	R12	20.07
3	54 0849L	SBD	INTERSTATE 40 WB	ORANGE BLOSSOM WASH	R71.75	20.06
3	54 0849R	SBD	INTERSTATE 40 EB	ORANGE BLOSSOM WASH	R71.75	20.01
3	56 0463L	RIV	INTERSTATE 10	HAZY GULCH	R74.1	19.94
3	54 0365	SBD	STATE HIGHWAY 330	CITY CREEK	32.51	19.93
3	56 0463R	RIV	INTERSTATE 10	HAZY GULCH	R74.1	19.87
3	54 1276L	SBD	INTERSTATE 40	NEPRUD WASH	R91.64	19.69
3	54 1276R	SBD	INTERSTATE 40	NEPRUD WASH	R91.66	19.67
4	54 0202R	SBD	INTERSTATE 40	TANK TOWER DITCH	R119.51	19.63
4	54 0500	SBD	INTERSTATE 15	WILD WASH	55.69	19.30
4	56 0536R	RIV	INTERSTATE 15 NB	SANTA ANA RIVER	46.16	19.17
4	56 0169	RIV	ROUTE 74	MORRILL CANYON	3.08	19.03
4	54 0648L	SBD	INTERSTATE 10 WB	OAK GLEN CREEK	R36.9	19.00
4	54 1283	SBD	STATE ROUTE 18	CUSHENBURY CREEK	66.8	18.96
4	56 0464L	RIV	INTERSTATE 10	DESPERATION ARROYO	R77.09	18.72
4	54 0100	SBD	STATE ROUTE 142	CARBON CANYON	0.18	18.71
4	56 0464R	RIV	INTERSTATE 10	DESPERATION ARROYO	R77.09	18.68
4	54 0891L	SBD	INTERSTATE 40	HALLER WASH	R95.14	18.68
4	54 0203L	SBD	INTERSTATE 40	HOMER WASH	R120.47	18.67
4	54 0277R	SBD	INTERSTATE 15 NB	MOBI DITCH	R135.05	18.65
4	54 0935L	SBD	STATE ROUTE 210 WB	PLUNGE CREEK	R30.48	18.64
4	54 0935R	SBD	STATE ROUTE 210 EB	PLUNGE CREEK	R30.48	18.64
4	54 0202L	SBD	INTERSTATE 40	TANK TOWER DITCH	R119.5	18.48
4	54 1043	SBD	STATE ROUTE 66	EAST BRANCH LYTLE CREEK	21.51	18.32
4	54 0713R	SBD	INTERSTATE 40	AIRPORT WASH	R13.55	18.29
4	54 0781L	SBD	INTERSTATE 15 SB	CAJON CREEK	16.07	18.26
4	54 0713L	SBD	INTERSTATE 40	AIRPORT WASH	R13.55	18.23
4	54 0201R	SBD	INTERSTATE 40	ARDIS DITCH	R118.66	17.96
4	56 0712	RIV	ROUTE 243	SMITH CREEK	28.16	17.95

Priority	Bridge Number	County ¹²	Route	Feature Crossed	Postmile	Cross-Hazard Prioritization Score
4	54 0711R	SBD	INTERSTATE 40	BLOOM WASH	R11.45	17.57
4	54 1110L	SBD	STATE ROUTE 58 WB	MOJAVE RIVER	R32.3	17.53
4	54 0711L	SBD	INTERSTATE 40	BLOOM WASH	R11.45	17.47
4	54 0714R	SBD	INTERSTATE 40	LAVA WASH	R14.61	17.35
4	54 0714L	SBD	INTERSTATE 40	LAVA WASH	R14.61	17.29
4	54 1090R	SBD	ROUTE 58 E BOUND	HAWES WASH	R15.83	17.11
4	54 0201L	SBD	INTERSTATE 40	ARDIS DITCH	R118.66	17.01
4	54 0690L	SBD	INTERSTATE 40 WB	RED WASH	R39	17.01
4	56 0517L	RIV	STATE ROUTE 62 WB	MISSION CHANNEL	R6.01	17.01
4	54 0690R	SBD	INTERSTATE 40 EB	RED WASH	R39	16.98
4	54 1090L	SBD	STATE ROUTE 58 WB	HAWES WASH	R15.83	16.90
4	54 1177	SBD	STATE ROUTE 18	BIG BEAR LAKE BRIDGE	44.37	16.90
4	54 0304R	SBD	INTERSTATE 15 NB	CLARK MOUNTAIN DITCH	167.99R	16.68
4	54 0715R	SBD	INTERSTATE 40	GAS LINE WASH	R15.41	16.64
4	54 0715L	SBD	INTERSTATE 40	GAS LINE WASH	R15.41	16.53
4	56 0499R	RIV	INTERSTATE 15 NB	TEMESCAL WASH	40.86	16.44
4	54 0507L	SBD	INTERSTATE 40	AIRPORT WASH	145.61	16.42
4	54 0507R	SBD	INTERSTATE 40	AIRPORT WASH	145.61	16.36
4	54 0712R	SBD	INTERSTATE 40	BLOSSOM WASH	R12	16.25
4	54 0777	SBD	INTERSTATE 15	EAST FORK CAJON CREEK	R20.67	16.20
4	54 0474	SBD	INTERSTATE 215	WARM CREEK	5.23	16.11
4	54 0505L	SBD	INTERSTATE 40	MESQUITE WASH	147.25	16.10
4	54 0304L	SBD	INTERSTATE 15 SB	CLARK MOUNTAIN DITCH	167.99L	16.09
4	54 0294R	SBD	INTERSTATE 15 NB	KALI DITCH	154.68	16.04
4	56 0499L	RIV	INTERSTATE 15 SB	TEMESCAL WASH	40.86	15.99
4	54 1269L	SBD	INTERSTATE 15 SB	KALI DITCH	154.67	15.96
4	54 0303L	SBD	INTERSTATE 15 SB	MESCAL DITCH	166.84	15.80
4	54 0499	SBD	INTERSTATE 15 SB	BELL MOUNTAIN WASH	47.39	15.70
4	54 0618L	SBD	INTERSTATE 15 SB	MOHAWK DITCH	168.58L	15.66
4	54 0505R	SBD	INTERSTATE 40	MESQUITE WASH	147.25	15.50
4	54 0619L	SBD	INTERSTATE 15 SB	MICRO DITCH	169.38L	15.20
4	54 0503R	SBD	INTERSTATE 40	PALO VERDE WASH	149.27	15.17
4	54 0503L	SBD	INTERSTATE 40	PALO VERDE WASH	149.27	15.09
4	54 1208L	SBD	INTERSTATE 15 SB	WELLS DITCH	162.47	15.09
4	54 1208R	SBD	INTERSTATE 15 NB	WELLS DITCH	162.47	15.06
4	54 0278L	SBD	INTERSTATE 15 SB	MOJAVE RIVER (BAKER)	R136.15	14.85

Priority	Bridge Number	County ¹²	Route	Feature Crossed	Postmile	Cross-Hazard Prioritization Score
4	56 0201R	RIV	INTERSTATE 10 EB	SMOKY GULCH	R63.65	14.36
4	56 0202R	RIV	INTERSTATE 10 EB	SUNNY GULCH	R66.18	14.34
4	56 0177	RIV	ROUTE 74	BAUTISTA CREEK	44.77	14.18
4	56 0514L	RIV	INTERSTATE 10	PINTO GULCH	R82.59	13.98
4	56 0514R	RIV	INTERSTATE 10	PINTO GULCH	R82.59	13.90
4	56 0201L	RIV	INTERSTATE 10 WB	SMOKY GULCH	R63.65	13.77
4	56 0202L	RIV	INTERSTATE 10 WB	SUNNY GULCH	R66.18	13.74
4	54 0287R	SBD	INTERSTATE 15 NB	HALLORAN WASH	147.64	13.69
4	54 0774L	SBD	INTERSTATE 15 SB	DEBRIS CONE CREEK	R19.29	13.67
4	54 0774R	SBD	INTERSTATE 15 NB	DEBRIS CONE CREEK	R19.29	13.66
4	54 0773L	SBD	INTERSTATE 15 SB	CLEGHORN CREEK	R18.48	13.65
4	54 0773R	SBD	INTERSTATE 15 NB	CLEGHORN CREEK	R18.48	13.65
4	54 0982L	SBD	INTERSTATE 15 SB	LYTLE CREEK	13.08	13.63
4	54 0982R	SBD	INTERSTATE 15 NB	LYTLE CREEK	13.08	13.63
5	54 1091L	SBD	STATE ROUTE 58 WB	IRON WASH	R20.64	13.58
5	54 1091R	SBD	STATE ROUTE 58 EB	IRON WASH	R20.64	13.58
5	56 0495L	RIV	INTERSTATE 15 SB	EAST CORONA OH	41.25	13.57
5	54 1164	SBD	STATE HIGHWAY 71	LITTLE CHINO CREEK	R3.04	13.54
5	56 0750	RIV	ROUTE 74	LEACH CANYON CHANNEL	13.23	13.49
5	54 0526L	SBD	INTERSTATE 215 SB	DEVIL CREEK	12.82	13.47
5	54 0526R	SBD	INTERSTATE 215 NB	DEVIL CREEK	12.82	13.44
5	54 1110R	SBD	STATE ROUTE 58 EB	MOJAVE RIVER	R32.3	13.42
5	56 0475R	RIV	INTERSTATE 10 EB	ECHO DITCH	R62.62	13.32
5	54 0227R	SBD	INTERSTATE 15 NB	MIDWAY DITCH	R107.12	13.23
5	54 0227L	SBD	INTERSTATE 15 SB	MIDWAY DITCH	R107.12	13.23
5	56 0148R	RIV	STATE ROUTE 86 NB	TURALA DITCH	1.82	13.18
5	56 0728L	RIV	INTERSTATE 15 SB	SAN JACINTO RIVER	19.37	13.09
5	56 0462L	RIV	INTERSTATE 10	EAST CACTUS WASH	R73.45	12.98
5	56 0462R	RIV	INTERSTATE 10	EAST CACTUS WASH	R73.45	12.91
5	56 0475L	RIV	INTERSTATE 10 WB	ECHO DITCH	R62.62	12.72
5	54 0769L	SBD	STATE ROUTE 210 WB	EAST TWIN CREEK CHANNEL	R24.76	12.57
5	54 0769R	SBD	STATE ROUTE 210 EB	EAST TWIN CREEK CHANNEL	R24.76	12.57
5	54 0642L	SBD	INTERSTATE 15 SB	MOJAVE RIVER OVERFLOW	R120.05	12.54

Priority	Bridge Number	County ¹²	Route	Feature Crossed	Postmile	Cross-Hazard Prioritization Score
5	54 0247R	SBD	INTERSTATE 15 NB	TONO DITCH	R123.11	12.35
5	54 1207L	SBD	INTERSTATE 15 SB	WINDMILL STATION DITCH	162.19	12.25
5	54 0501L	SBD	INTERSTATE 40	SAGE WASH	150.25	12.25
5	54 1207R	SBD	INTERSTATE 15 NB	WINDMILL STATION DITCH	162.19	12.22
5	54 0247L	SBD	INTERSTATE 15 SB	TONO DITCH	R123.09	12.18
5	54 0504R	SBD	INTERSTATE 40	OCOTILLO WASH	148.87	12.13
5	56 0778L	RIV	STATE ROUTE 86S SB	KINGS STORMWATER CHANNEL	R4.74	12.10
5	54 1205R	SBD	INTERSTATE 15 NB	WEST VALLEY WELLS DITCH	160.94	11.95
5	54 0501R	SBD	INTERSTATE 40	SAGE WASH	150.25	11.90
5	54 1205L	SBD	INTERSTATE 15 SB	WEST VALLEY WELLS DITCH	160.94	11.86
5	54 0288R	SBD	INTERSTATE 15 NB	DALE DITCH	150.32	11.82
5	54 0225L	SBD	INTERSTATE 15 SB	CADY WASH	R105.97	11.73
5	54 0920L	SBD	INTERSTATE 15 SB	DAY CANYON CHANNEL	4.47	11.65
5	54 0508L	SBD	INTERSTATE 40	ICE HOUSE DITCH	144.38	11.58
5	54 0223R	SBD	INTERSTATE 15 NB	FIELD WASH	R104.77	11.58
5	54 0233L	SBD	INTERSTATE 15 SB	TELEPHONE WASH	R110.36	11.57
5	54 0642R	SBD	INTERSTATE 15 NB	MOJAVE RIVER OVERFLOW	R120.05	11.57
5	54 0233R	SBD	INTERSTATE 15 NB	TELEPHONE WASH	R110.36	11.56
5	56 0461L	RIV	INTERSTATE 10	CACTUS WASH	R73.18	11.54
5	54 0504L	SBD	INTERSTATE 40	OCOTILLO WASH	148.87	11.53
5	54 0508R	SBD	INTERSTATE 40	ICE HOUSE DITCH	144.38	11.52
5	54 0225R	SBD	INTERSTATE 15 NB	CADY WASH	R105.97	11.51
5	56 0461R	RIV	INTERSTATE 10	CACTUS WASH	R73.2	11.48
5	54 1206R	SBD	INTERSTATE 15 NB	VALLEY WELLS DITCH	161.5	11.41
5	54 1206L	SBD	INTERSTATE 15 SB	VALLEY WELLS DITCH	161.5	11.23
5	54 0502R	SBD	INTERSTATE 40	BEAL WASH	149.85	11.16
5	54 0502L	SBD	INTERSTATE 40	BEAL WASH	149.85	11.10
5	54 0279L	SBD	INTERSTATE 15 SB	BAKER INN DITCH	R136.95	11.03
5	54 0207L	SBD	INTERSTATE 40	CRESTVIEW WASH	R132.18	11.00
5	54 0207R	SBD	INTERSTATE 40	CRESTVIEW WASH	R132.18	11.00
5	54 0288L	SBD	INTERSTATE 15 SB	DALE DITCH	150.3	10.48
5	54 0520R	SBD	INTERSTATE 215 NB	CABLE CREEK	13.47	10.31
5	56 0204R	RIV	INTERSTATE 10	BROWN ARROYO	R68.29	10.02
5	56 0776R	RIV	STATE ROUTE 86S NB	LOWEN DITCH	R3.32	9.89
5	56 0775L	RIV	STATE ROUTE 86S SB	NEVA DITCH	R2.93	9.55
5	56 0204L	RIV	INTERSTATE 10	BROWN ARROYO	R68.29	9.43

Priority	Bridge Number	County ¹²	Route	Feature Crossed	Postmile	Cross-Hazard Prioritization Score
5	56 0759R	RIV	STATE ROUTE 86S NB	WASTEWAY NO 2	R18.77	9.39
5	56 0148L	RIV	STATE ROUTE 86 SB	TURALA DITCH	1.82	9.29
5	54 0246R	SBD	INTERSTATE 15 NB	DOCK DITCH	R121.43	9.22
5	54 0279R	SBD	INTERSTATE 15 NB	BAKER INN DITCH	R136.95	9.19
5	54 0238R	SBD	INTERSTATE 15 NB	BIRD DITCH	R115.36	8.95
5	56 0476L	RIV	INTERSTATE 10 WB	POLARIS WASH	R62.03	8.88
5	54 0238L	SBD	INTERSTATE 15 SB	BIRD DITCH	R115.36	8.88
5	54 0716R	SBD	INTERSTATE 40	TWIN HILLS WASH	R15.92	8.33
5	54 0716L	SBD	INTERSTATE 40	TWIN HILLS WASH	R15.92	8.27
5	54 0246L	SBD	INTERSTATE 15 SB	DOCK DITCH	R121.43	7.99
5	56 0374	RIV	STATE ROUTE 111	COACHELLA CANAL WASTEWAY 1	11.55	7.95
5	54 0223L	SBD	INTERSTATE 15 SB	FIELD WASH	R104.77	7.48
5	54 0829	SBD	U.S. HIGHWAY 395	CALIFORNIA AQUEDUCT	6.83	6.62
5	54 0667L	SBD	INTERSTATE 15 SB	YERMO DITCH	R86.05	3.91
5	54 0638R	SBD	INTERSTATE 15 NB	MOUND WASH	R101.27	3.55
5	54 0638L	SBD	INTERSTATE 15 SB	MOUND WASH	R101.27	3.44
5	54 1089L	SBD	STATE ROUTE 58 WB	TURTLE WASH	R14.23	0.58
5	54 0511	SBD	INTERSTATE 15	LENWOOD WASH	68.48	0.00

TABLE 9: PRIORITIZATION OF LARGE CULVERTS FOR DETAILED CLIMATE CHANGE ADAPTATION ASSESSMENTS

Priority	Culvert System Number	County ¹³	Route	Feature Crossed	Postmile	Cross-Hazard Prioritization Score
1	56 0795	RIV	ROUTE 79	SALT CREEK FLOOD CONTROL CHANNEL	R16R	100.00
1	54 1006R	SBD	INTERSTATE 40 EB	EDELWEISS DITCH	R60.8R	73.38
1	54 1006L	SBD	INTERSTATE 40 WB	EDELWEISS DITCH	R60.8L	73.28
1	54 1013L	SBD	INTERSTATE 40 WB	LEEK DITCH	R65.8L	70.50
1	56 0684	RIV	ROUTE 91	WARDLOW WASH	R1.73	66.53
1	54 1149	SBD	STATE ROUTE 210	CUCAMONGA CREEK CHANNEL	3.92	63.71
1	56 0255	RIV	INTERSTATE 10	ITTA WASH	R15.79	59.28
1	56 0607	RIV	SR 79 (WINCHESTER)	RANGE CREEK	R8.94	58.46
2	54 0988	SBD	STATE ROUTE 62	MWD AQUEDUCT (SIPHON)	91.75	58.25
2	54 0312	SBD	INTERSTATE 10	WILDWOOD CREEK	R38.53	57.28
2	54 0361	SBD	STATE HIGHWAY 2	GRAYSAND CREEK	2.8	51.76
2	54 1122	SBD	STATE ROUTE 58	LAMOTTE WASH	R18.01	47.57
2	56 0279	RIV	INTERSTATE 10	TOWNSHIP CREEK	R5.43	47.38
2	54 1060	SBD	STATE ROUTE 18	RATHBONE CREEK	50.88	47.26
2	54 1020	SBD	INTERSTATE 40	SAGE DITCH	R73.1	46.29
2	56 0473	RIV	ROUTE 91	PIERCE DITCH	10.7	42.35
2	56 0278	RIV	INTERSTATE 10	BRIDGES CREEK	R5.87	42.16
3	54 0266	SBD	STATE ROUTE 18	METCALF CREEK	47.17	41.62
3	54 1121	SBD	STATE ROUTE 58	CHAU WASH	R17.81	39.95
3	54 0677	SBD	SR 210 & RAMPS	DAY CREEK CHANNEL	8.91	39.47
3	54 0411	SBD	STATE ROUTE 38	GROUT CREEK	55.99	38.52
3	56 0630	RIV	STATE ROUTE 62	DESERT VISTA DRAIN	R4.81	38.21
3	54 1170	SBD	STATE ROUTE 127	AMARGOSA RIVER	31.9	34.37
3	54 0977M	SBD	STATE ROUTE 210	DEL ROSA - LITTLE SAND CHANNEL	R25.81	33.90
3	54 0569	SBD	STATE ROUTE 18	ARCTIC CANYON WASH	68.45	33.00
4	54 1120	SBD	STATE ROUTE 58	ASTRID WASH	R16.44	30.41
4	54 0998	SBD	STATE ROUTE 62	WHIPPLE MOUNTAIN WASH	132.42	29.82
4	56 0752	RIV	STATE ROUTE 243	GILMAN HOME CHANNEL	29.23	29.45
4	54 0828	SBD	INTERSTATE 15	CALIFORNIA AQUEDUCT	34.34	29.15

¹³ RIV = Riverside; SBD = San Bernardino

Priority	Culvert System Number	County ¹³	Route	Feature Crossed	Postmile	Cross-Hazard Prioritization Score
4	56 0622	RIV	SR 60,FAIRGROUNDS,	SPRING BROOK	11.33	27.97
4	54 1119	SBD	STATE ROUTE 58	AMBOS WASH	R11.89	26.12
4	56 0812	RIV	STATE ROUTE 86S	BUCHANAN CHANNEL	R11.64	24.80
4	56 0727	RIV	STATE ROUTE 62	MWD AQUEDUCT (SIPHON)	82.05	24.31
4	54 0863	SBD	INTERSTATE 40	DIKE WASH	147.89	22.11
5	54 1033	SBD	INTERSTATE 40	NEEDLES FLOOD CONTROL CHANNEL	R143.11	21.57
5	54 1051	SBD	STATE ROUTE 62	LONG CANYON CHANNEL	11.76	21.20
5	54 0239	SBD	INTERSTATE 15	ROCKY WASH	R116.82	19.95
5	56 0779R	RIV	STATE ROUTE 86S NB	AVENUE 76 DITCH	R5.99	16.74
5	56 0284	RIV	STATE ROUTE 111	ELM DITCH	6.6	12.20
5	54 0573	SBD	INTERSTATE 15	DRIFT WASH	68.19	6.21
5	54 1124	SBD	STATE ROUTE 58	OGATA WASH	R20.42	1.53
5	54 1125	SBD	STATE ROUTE 58	RASMUSSEN WASH	R21.26	0.00

TABLE 10: PRIORITIZATION OF SMALL CULVERTS FOR DETAILED CLIMATE CHANGE ADAPTATION ASSESSMENTS

Priority	Culvert System Number	County ¹⁴	Route	Postmile	Cross-Hazard Prioritization Score
1	540184003719	SBD	18	37.19	100.00
1	540184003757	SBD	18	37.57	95.67
1	540380002763	SBD	38	27.63	89.11
1	540380003002	SBD	38	30.02	87.83
1	540380102684	SBD	38	26.84	83.89
1	540380102680	SBD	38	26.8	81.90
1	540380003074	SBD	38	30.74	81.64
1	560744005406	RIV	74	54.06	78.59
1	540184003460	SBD	18	34.6	76.48
1	540180003294	SBD	18	32.94	74.68
1	540184003569	SBD	18	35.69	73.73
1	540380002036	SBD	38	20.36	71.98
1	540402013520	SBD	40	135.2	70.54
1	540400013533	SBD	40	135.33	70.32
1	540184006375	SBD	18	63.75	68.76
1	540401213427	SBD	40	134.27	68.76
1	540180003393	SBD	18	33.93	68.58
1	540384004240	SBD	38	42.4	67.53
1	562430001532	RIV	243	15.32	66.39
1	540180006469	SBD	18	64.69	66.30
1	540150101716	SBD	15	17.16	66.15
1	540020000032	SBD	2	0.32	65.87
1	540380005450	SBD	38	54.5	65.72
1	540150101960	SBD	15	19.6	64.84
1	540184004041	SBD	18	40.41	64.81
1	543304004260	SBD	330	42.6	64.30
1	540184006371	SBD	18	63.71	64.26
1	540380005230	SBD	38	52.3	64.22
1	540380005302	SBD	38	53.02	64.16
1	540184006091	SBD	18	60.91	63.77
1	560740007178	RIV	74	71.78	63.55
1	540380005044	SBD	38	50.44	63.42
1	540380005065	SBD	38	50.65	63.41
1	540380004959	SBD	38	49.59	63.05
1	541384002252	SBD	138	22.52	62.90
1	541730001422	SBD	173	14.22	62.70

¹⁴ RIV = Riverside; SBD = San Bernardino

Priority	Culvert System Number	County ¹⁴	Route	Postmile	Cross-Hazard Prioritization Score
1	540384004545	SBD	38	45.45	62.69
1	562430000964	RIV	243	9.64	62.55
1	540180004340	SBD	18	43.4	62.29
1	541734001733	SBD	173	17.33	61.51
1	540184006204	SBD	18	62.04	61.24
1	540380002160	SBD	38	21.6	61.09
1	540380002520	SBD	38	25.2	60.79
1	540380002477	SBD	38	24.77	60.75
1	540380002412	SBD	38	24.12	60.63
1	540184105450	SBD	18	54.5	60.15
1	541734002019	SBD	173	20.19	60.09
1	560954002948	RIV	95	29.48	59.69
1	540384103114	SBD	38	31.14	59.68
1	543300001458	SBD	330	14.58	59.65
1	543300003810	SBD	330	38.1	59.64
1	562430001195	RIV	243	11.95	59.59
1	540180004618	SBD	18	46.18	59.52
1	562430000591	RIV	243	5.91	59.49
1	540384004523	SBD	38	45.23	59.44
1	562430000875	RIV	243	8.75	59.39
1	540380001560	SBD	38	15.6	59.23
1	540380005378	SBD	38	53.78	59.21
1	560954003007	RIV	95	30.07	59.18
1	540150101585	SBD	15	15.85	59.16
1	540380001637	SBD	38	16.37	59.12
1	540380002595	SBD	38	25.95	59.05
1	540380005412	SBD	38	54.12	59.05
1	543304003625	SBD	330	36.25	59.04
1	540384104860	SBD	38	48.6	58.97
1	541380102589	SBD	138	25.89	58.69
1	540180005254	SBD	18	52.54	58.64
1	540380005343	SBD	38	53.43	58.60
1	562430001124	RIV	243	11.24	58.59
1	540150101830	SBD	15	18.3	58.44
1	540384104896	SBD	38	48.96	58.28
1	540384003145	SBD	38	31.45	58.27
1	540384004575	SBD	38	45.75	58.26
1	540384104700	SBD	38	47	58.14
1	540380002195	SBD	38	21.95	58.14
1	541890000330	SBD	189	3.3	58.12

Priority	Culvert System Number	County ¹⁴	Route	Postmile	Cross-Hazard Prioritization Score
1	540380002253	SBD	38	22.53	58.09
1	540380002228	SBD	38	22.28	58.00
1	540384003213	SBD	38	32.13	58.00
1	540380002100	SBD	38	21	58.00
1	541384002310	SBD	138	23.1	57.93
1	540384003517	SBD	38	35.17	57.89
1	540152102328	SBD	15	23.28	57.71
1	562430001201	RIV	243	12.01	57.63
1	540380001837	SBD	38	18.37	57.44
1	540384003391	SBD	38	33.91	57.44
1	540180004692	SBD	18	46.92	57.39
1	540384004142	SBD	38	41.42	57.31
1	540384004057	SBD	38	40.57	57.28
1	540384004091	SBD	38	40.91	57.27
1	540380005845	SBD	38	58.45	57.22
1	540380003883	SBD	38	38.83	56.88
1	540624013410	SBD	62	134.1	56.83
1	540180004485	SBD	18	44.85	56.72
1	541384102681	SBD	138	26.81	56.71
1	543304003143	SBD	330	31.43	56.68
1	540400113883	SBD	40	138.83	56.61
1	540180004747	SBD	18	47.47	56.49
1	540180004548	SBD	18	45.48	56.35
1	541380001196	SBD	138	11.96	56.27
1	541380000919	SBD	138	9.19	55.93
1	541380000372	SBD	138	3.72	55.87
1	562430000518	RIV	243	5.18	55.75
1	540150102219	SBD	15	22.19	55.66
1	540624013445	SBD	62	134.45	55.66
1	540150102235	SBD	15	22.35	55.65
1	540380001748	SBD	38	17.48	55.64
1	560740005886	RIV	74	58.86	55.61
1	540020000218	SBD	2	2.18	55.54
1	562430000475	RIV	243	4.75	55.41
1	541380000227	SBD	138	2.27	55.36
1	540150101830	SBD	15	18.3	55.35
1	540150102206	SBD	15	22.06	55.22
1	540154102304	SBD	15	23.04	55.06
1	540380002374	SBD	38	23.74	55.04
1	560744106309	RIV	74	63.09	54.97

Priority	Culvert System Number	County ¹⁴	Route	Postmile	Cross-Hazard Prioritization Score
1	560106109023	RIV	10	90.23	54.92
1	540184006431	SBD	18	64.31	54.92
1	541380102733	SBD	138	27.33	54.90
1	543304003491	SBD	330	34.91	54.75
1	560740007480	RIV	74	74.8	54.69
1	562430000165	RIV	243	1.65	54.68
1	560740007726	RIV	74	77.26	54.65
1	541384000574	SBD	138	5.74	54.65
1	541730700581	SBD	173	5.81	54.64
1	562434001933	RIV	243	19.33	54.64
1	540624013420	SBD	62	134.2	54.53
2	562430000288	RIV	243	2.88	54.50
2	560744005238	RIV	74	52.38	54.18
2	560954002961	RIV	95	29.61	54.16
2	540624013645	SBD	62	136.45	54.01
2	541380102795	SBD	138	27.95	53.99
2	541734700037	SBD	173	0.37	53.96
2	562430001081	RIV	243	10.81	53.91
2	540180005156	SBD	18	51.56	53.73
2	560154003091	RIV	15	30.91	53.63
2	541890000310	SBD	189	3.1	53.51
2	540150101500	SBD	15	15	53.46
2	540150101500	SBD	15	15	53.32
2	560740005680	RIV	74	56.8	53.30
2	560740007743	RIV	74	77.43	53.23
2	560100108992	RIV	10	89.92	53.10
2	560744105106	RIV	74	51.06	53.09
2	541380001236	SBD	138	12.36	53.07
2	560744105111	RIV	74	51.11	53.05
2	543304003700	SBD	330	37	53.03
2	560100108992	RIV	10	89.92	53.03
2	560740007017	RIV	74	70.17	52.99
2	540180101542	SBD	18	15.42	52.93
2	560740006533	RIV	74	65.33	52.70
2	560744005633	RIV	74	56.33	52.67
2	560100108916	RIV	10	89.16	52.54
2	560740006558	RIV	74	65.58	52.52
2	541380102866	SBD	138	28.66	52.51
2	560100108916	RIV	10	89.16	52.45
2	543304003100	SBD	330	31	52.44

Priority	Culvert System Number	County ¹⁴	Route	Postmile	Cross-Hazard Prioritization Score
2	562434002240	RIV	243	22.4	52.35
2	543304003599	SBD	330	35.99	52.19
2	560106109023	RIV	10	90.23	52.13
2	560794001128	RIV	79	11.28	52.12
2	540180004909	SBD	18	49.09	52.11
2	560100110998	RIV	10	109.98	52.09
2	540020000486	SBD	2	4.86	52.00
2	560740006672	RIV	74	66.72	51.84
2	540624013700	SBD	62	137	51.83
2	560604002899	RIV	60	28.99	51.75
2	541384001754	SBD	138	17.54	51.68
2	540154102373	SBD	15	23.73	51.57
2	540624013440	SBD	62	134.4	51.42
2	560740000120	RIV	74	1.2	51.34
2	540954001535	SBD	95	15.35	51.30
2	541380000441	SBD	138	4.41	51.10
2	560744105159	RIV	74	51.59	51.10
2	540624013480	SBD	62	134.8	50.96
2	540384003680	SBD	38	36.8	50.92
2	540384003557	SBD	38	35.57	50.90
2	540020000590	SBD	2	5.9	50.74
2	541384001824	SBD	138	18.24	50.52
2	560744005519	RIV	74	55.19	50.22
2	560740007374	RIV	74	73.74	50.14
2	541380103067	SBD	138	30.67	50.08
2	562430000130	RIV	243	1.3	50.03
2	560740007576	RIV	74	75.76	49.96
2	560740007685	RIV	74	76.85	49.95
2	560740007806	RIV	74	78.06	49.80
2	560740005717	RIV	74	57.17	49.70
2	560740007491	RIV	74	74.91	49.68
2	560794001183	RIV	79	11.83	49.60
2	562434002375	RIV	243	23.75	49.45
2	560740006471	RIV	74	64.71	49.36
2	560954100917	RIV	95	9.17	49.29
2	540624013407	SBD	62	134.07	49.15
2	560740007873	RIV	74	78.73	49.13
2	560158203038	RIV	15	30.38	48.93
2	560794001382	RIV	79	13.82	48.89
2	541730700710	SBD	173	7.1	48.86

Priority	Culvert System Number	County ¹⁴	Route	Postmile	Cross-Hazard Prioritization Score
2	540184101173	SBD	18	11.73	48.79
2	541730700740	SBD	173	7.4	48.71
2	560790003767	RIV	79	37.67	48.67
2	560794001248	RIV	79	12.48	48.59
2	541385201638	SBD	138	16.38	48.59
2	541384101616	SBD	138	16.16	48.48
2	560790000190	RIV	79	1.9	48.48
2	560954002868	RIV	95	28.68	48.42
2	560744008464	RIV	74	84.64	48.41
2	540384001098	SBD	38	10.98	48.40
2	541890000246	SBD	189	2.46	48.25
2	540954002462	SBD	95	24.62	48.20
2	560740005606	RIV	74	56.06	48.04
2	560744005266	RIV	74	52.66	48.04
2	560740005573	RIV	74	55.73	48.03
2	560604002899	RIV	60	28.99	47.88
2	560790000495	RIV	79	4.95	47.57
2	560740006901	RIV	74	69.01	47.07
2	540624013379	SBD	62	133.79	46.82
2	560954002556	RIV	95	25.56	46.82
2	560955201730	RIV	95	17.3	46.72
2	560710000126	RIV	71	1.26	46.61
2	541380001034	SBD	138	10.34	46.40
2	540380002311	SBD	38	23.11	46.40
2	560954002829	RIV	95	28.29	46.30
2	560954003300	RIV	95	33	46.01
2	560954001691	RIV	95	16.91	45.96
2	560104100478	RIV	10	4.78	45.86
2	541380000948	SBD	138	9.48	45.84
2	560744008545	RIV	74	85.45	45.83
2	540624013888	SBD	62	138.88	45.83
2	543304102984	SBD	330	29.84	45.71
2	543304102984	SBD	330	29.84	45.71
2	560150000357	RIV	15	3.57	45.66
2	560104100448	RIV	10	4.48	45.66
2	560790003988	RIV	79	39.88	45.61
2	560710000000	RIV	71	0	45.53
2	560794003849	RIV	79	38.49	45.53
2	560740006785	RIV	74	67.85	45.45
2	560740006845	RIV	74	68.45	45.43

Priority	Culvert System Number	County ¹⁴	Route	Postmile	Cross-Hazard Prioritization Score
2	560740000020	RIV	74	0.2	45.30
2	560150002517	RIV	15	25.17	45.10
2	540154001381	SBD	15	13.81	44.85
2	560954001035	RIV	95	10.35	44.61
2	540954000067	SBD	95	0.67	44.60
2	541730700568	SBD	173	5.68	44.59
2	543954000547	SBD	395	5.47	44.57
2	560104100478	RIV	10	4.78	44.56
2	560104100448	RIV	10	4.48	44.36
2	540624014131	SBD	62	141.31	44.21
2	562158001238	RIV	215	12.38	43.84
2	560740006738	RIV	74	67.38	43.80
2	560740000227	RIV	74	2.27	43.78
2	560954002646	RIV	95	26.46	43.75
2	560150002640	RIV	15	26.4	43.62
2	541381200103	SBD	138	1.03	43.59
2	560954002809	RIV	95	28.09	43.32
2	560954002793	RIV	95	27.93	43.31
3	563710006472	RIV	371	64.72	43.30
3	562430000012	RIV	243	0.12	43.27
3	560954002890	RIV	95	28.9	43.06
3	540154011518	SBD	15	115.18	42.80
3	562158001238	RIV	215	12.38	42.54
3	560740000220	RIV	74	2.2	42.36
3	560154100215	RIV	15	2.15	42.22
3	560954002479	RIV	95	24.79	42.20
3	560154100215	RIV	15	2.15	42.16
3	560150002517	RIV	15	25.17	42.06
3	540624013323	SBD	62	133.23	42.00
3	540400115422	SBD	40	154.22	41.33
3	560740004850	RIV	74	48.5	41.21
3	560790001195	RIV	79	11.95	41.18
3	540624013953	SBD	62	139.53	41.18
3	540624013930	SBD	62	139.3	41.16
3	563710006519	RIV	371	65.19	40.79
3	560740000107	RIV	74	1.07	40.66
3	540624012610	SBD	62	126.1	40.59
3	560740000026	RIV	74	0.26	40.58
3	560150001422	RIV	15	14.22	40.57
3	560150001422	RIV	15	14.22	40.57

Priority	Culvert System Number	County ¹⁴	Route	Postmile	Cross-Hazard Prioritization Score
3	540624013728	SBD	62	137.28	40.50
3	560154003387	RIV	15	33.87	40.34
3	563715206425	RIV	371	64.25	40.27
3	563710006400	RIV	371	64	40.25
3	562434002108	RIV	243	21.08	40.19
3	560159202668	RIV	15	26.68	39.97
3	560154003387	RIV	15	33.87	39.87
3	560954001700	RIV	95	17	39.64
3	560954002505	RIV	95	25.05	39.59
3	560744008112	RIV	74	81.12	39.53
3	563710006387	RIV	371	63.87	39.45
3	540400115160	SBD	40	151.6	39.22
3	540400015108	SBD	40	151.08	39.11
3	540624013181	SBD	62	131.81	39.01
3	560740004879	RIV	74	48.79	38.94
3	560744001102	RIV	74	11.02	38.82
3	540406115324	SBD	40	153.24	38.70
3	560740000223	RIV	74	2.23	38.52
3	560104107690	RIV	10	76.9	38.45
3	563714007135	RIV	371	71.35	38.34
3	560100109962	RIV	10	99.62	38.15
3	560102106998	RIV	10	69.98	38.12
3	540624012653	SBD	62	126.53	38.01
3	560104107043	RIV	10	70.43	37.99
3	541730001086	SBD	173	10.86	37.95
3	540624012924	SBD	62	129.24	37.85
3	560150002713	RIV	15	27.13	37.79
3	560710000153	RIV	71	1.53	37.76
3	560710000026	RIV	71	0.26	37.75
3	560604002264	RIV	60	22.64	37.62
3	560150002713	RIV	15	27.13	37.59
3	560604002358	RIV	60	23.58	37.52
3	540400115422	SBD	40	154.22	37.52
3	540180100944	SBD	18	9.44	37.49
3	560744002139	RIV	74	21.39	37.46
3	560740000899	RIV	74	8.99	37.46
3	560740000946	RIV	74	9.46	37.44
3	540624012680	SBD	62	126.8	37.15
3	560740007928	RIV	74	79.28	36.92
3	560159202668	RIV	15	26.68	36.88

Priority	Culvert System Number	County ¹⁴	Route	Postmile	Cross-Hazard Prioritization Score
3	560104107612	RIV	10	76.12	36.87
3	540624012900	SBD	62	129	36.85
3	540624013090	SBD	62	130.9	36.80
3	540624013063	SBD	62	130.63	36.77
3	540624013060	SBD	62	130.6	36.76
3	560104107612	RIV	10	76.12	36.75
3	560744008268	RIV	74	82.68	36.72
3	560794000821	RIV	79	8.21	36.72
3	560744008336	RIV	74	83.36	36.68
3	540624013126	SBD	62	131.26	36.62
3	540624013120	SBD	62	131.2	36.57
3	540624013147	SBD	62	131.47	36.51
3	560150002536	RIV	15	25.36	36.44
3	562430001281	RIV	243	12.81	36.42
3	540620001719	SBD	62	17.19	36.40
3	560150002536	RIV	15	25.36	36.39
3	560954001717	RIV	95	17.17	36.36
3	540624013266	SBD	62	132.66	36.21
3	540624013275	SBD	62	132.75	36.20
3	562430001302	RIV	243	13.02	36.17
3	540624013280	SBD	62	132.8	36.13
3	541420100072	SBD	142	0.72	36.08
3	560790000136	RIV	79	1.36	36.02
3	540400115160	SBD	40	151.6	36.00
3	540624013165	SBD	62	131.65	35.95
3	540624013188	SBD	62	131.88	35.95
3	560791203392	RIV	79	33.92	35.93
3	540400015108	SBD	40	151.08	35.89
3	560100109796	RIV	10	97.96	35.84
3	560150002356	RIV	15	23.56	35.78
3	560100109796	RIV	10	97.96	35.68
3	540400115275	SBD	40	152.75	35.66
3	563710006323	RIV	371	63.23	35.55
3	540400115275	SBD	40	152.75	35.53
3	541420100046	SBD	142	0.46	35.45
3	560156001350	RIV	15	13.5	35.38
3	560100109936	RIV	10	99.36	35.23
3	540184013033	SBD	18	130.33	35.12
3	540400015068	SBD	40	150.68	35.10
3	560100108751	RIV	10	87.51	35.10

Priority	Culvert System Number	County ¹⁴	Route	Postmile	Cross-Hazard Prioritization Score
3	560156001350	RIV	15	13.5	35.09
3	560100108679	RIV	10	86.79	34.99
3	560740000097	RIV	74	0.97	34.91
3	560100108679	RIV	10	86.79	34.90
3	540406115324	SBD	40	153.24	34.87
3	540104000771	SBD	10	7.71	34.46
3	560604002322	RIV	60	23.22	34.41
3	560106107220	RIV	10	72.2	34.29
3	540620001106	SBD	62	11.06	34.18
3	560954001915	RIV	95	19.15	33.96
3	560104107738	RIV	10	77.38	33.88
3	560954002521	RIV	95	25.21	33.85
3	541420000165	SBD	142	1.65	33.57
3	560104106991	RIV	10	69.91	33.25
3	560104107738	RIV	10	77.38	33.24
3	560100109588	RIV	10	95.88	32.78
3	560790103451	RIV	79	34.51	32.72
3	563714006663	RIV	371	66.63	32.66
3	560790003504	RIV	79	35.04	32.64
3	560100109588	RIV	10	95.88	32.63
3	540624012627	SBD	62	126.27	32.45
3	560106107220	RIV	10	72.2	32.36
3	540150005730	SBD	15	57.3	32.27
3	560104106662	RIV	10	66.62	32.23
3	560100109688	RIV	10	96.88	32.04
4	540150005814	SBD	15	58.14	31.84
4	540180009346	SBD	18	93.46	31.82
4	560744002504	RIV	74	25.04	31.55
4	560104106925	RIV	10	69.25	31.47
4	560744002542	RIV	74	25.42	30.73
4	560744002540	RIV	74	25.4	30.69
4	541420000135	SBD	142	1.35	30.52
4	560104106662	RIV	10	66.62	30.14
4	540154005003	SBD	15	50.03	30.04
4	540404105828	SBD	40	58.28	29.88
4	560100110334	RIV	10	103.34	29.54
4	560100110334	RIV	10	103.34	29.53
4	541420100270	SBD	142	2.7	29.33
4	540154017542	SBD	15	175.42	27.67
4	540406113245	SBD	40	132.45	27.63

Priority	Culvert System Number	County ¹⁴	Route	Postmile	Cross-Hazard Prioritization Score
4	560100110998	RIV	10	109.98	27.37
4	540150006481	SBD	15	64.81	27.32
4	560864100365	RIV	86	3.65	26.18
4	540954005843	SBD	95	58.43	25.60
4	540150005633	SBD	15	56.33	24.94
4	540154005471	SBD	15	54.71	24.18
4	540150006257	SBD	15	62.57	24.08
4	540150006541	SBD	15	65.41	23.97
4	540950007752	SBD	95	77.52	23.69
4	540158005569	SBD	15	55.69	23.55
4	560744002388	RIV	74	23.88	23.38
4	540156006984	SBD	15	69.84	22.58
4	540150006257	SBD	15	62.57	22.49
4	540380005532	SBD	38	55.32	22.45
4	540150006541	SBD	15	65.41	22.43
4	560954002076	RIV	95	20.76	22.40
4	540400014615	SBD	40	146.15	22.09
4	540380005577	SBD	38	55.77	21.93
4	540154005050	SBD	15	50.5	21.83
4	540400014837	SBD	40	148.37	21.41
4	540154005406	SBD	15	54.06	21.07
4	560154003719	RIV	15	37.19	20.79
4	540400105330	SBD	40	53.3	20.47
4	540184006739	SBD	18	67.39	20.45
4	560604100183	RIV	60	1.83	19.99
4	540152017368	SBD	15	173.68	19.88
4	540154017596	SBD	15	175.96	19.71
4	540404112476	SBD	40	124.76	19.54
4	540154013327	SBD	15	133.27	19.47
4	560620008510	RIV	62	85.1	19.43
4	540400114338	SBD	40	143.38	19.43
4	540400013193	SBD	40	131.93	19.43
4	540400013193	SBD	40	131.93	19.40
4	560150001211	RIV	15	12.11	19.27
4	540400112727	SBD	40	127.27	19.16
4	540400014615	SBD	40	146.15	19.12
4	540402112511	SBD	40	125.11	19.12
4	540400114499	SBD	40	144.99	19.09
4	540400114499	SBD	40	144.99	18.98
4	540154113287	SBD	15	132.87	18.92

Priority	Culvert System Number	County ¹⁴	Route	Postmile	Cross-Hazard Prioritization Score
4	540404112606	SBD	40	126.06	18.90
4	540400114466	SBD	40	144.66	18.82
4	560104115610	RIV	10	156.1	18.82
4	540400014674	SBD	40	146.74	18.80
4	540400114466	SBD	40	144.66	18.71
4	560624000268	RIV	62	2.68	18.70
4	540400014674	SBD	40	146.74	18.69
4	540154113237	SBD	15	132.37	18.54
4	560954003259	RIV	95	32.59	18.36
4	560150004437	RIV	15	44.37	18.33
4	540400014837	SBD	40	148.37	18.32
4	560864000119	RIV	86	1.19	18.01
4	560624100587	RIV	62	5.87	17.65
4	560156000675	RIV	15	6.75	17.60
4	540150006282	SBD	15	62.82	17.60
4	540620001550	SBD	62	15.5	17.55
4	540150016716	SBD	15	167.16	17.49
4	540152017267	SBD	15	172.67	17.45
4	540150006328	SBD	15	63.28	17.19
4	540150005660	SBD	15	56.6	17.19
4	540150005660	SBD	15	56.6	17.08
4	540154013394	SBD	15	133.94	16.91
4	560100810008	RIV	10	100.08	16.65
4	540624000726	SBD	62	7.26	16.45
4	540150017193	SBD	15	171.93	16.22
4	560150001211	RIV	15	12.11	16.18
4	540150006219	SBD	15	62.19	16.06
4	540150006377	SBD	15	63.77	15.99
4	540150006409	SBD	15	64.09	15.99
4	560150001945	RIV	15	19.45	15.95
4	540154103906	SBD	15	39.06	15.81
4	540400105097	SBD	40	50.97	15.70
4	540580101928	SBD	58	19.28	15.59
4	540580101928	SBD	58	19.28	15.59
4	540400105150	SBD	40	51.5	15.57
4	562158001134	RIV	215	11.34	15.54
4	560150001600	RIV	15	16	15.52
4	540400105150	SBD	40	51.5	15.50
4	540152017226	SBD	15	172.26	15.29
4	540154005232	SBD	15	52.32	15.26

Priority	Culvert System Number	County ¹⁴	Route	Postmile	Cross-Hazard Prioritization Score
4	562154101420	RIV	215	14.2	15.10
4	560740004705	RIV	74	47.05	15.04
4	562154101420	RIV	215	14.2	15.01
4	560864000119	RIV	86	1.19	14.91
4	540150007046	SBD	15	70.46	14.79
4	540380005798	SBD	38	57.98	14.55
4	540380005641	SBD	38	56.41	14.49
4	560150004437	RIV	15	44.37	14.19
4	540154013327	SBD	15	133.27	14.16
4	540580101933	SBD	58	19.33	13.82
4	540154113287	SBD	15	132.87	13.78
4	563714007207	RIV	371	72.07	13.66
4	540580100090	SBD	58	0.9	13.64
4	540150007280	SBD	15	72.8	13.18
4	540154005259	SBD	15	52.59	12.98
4	540150007280	SBD	15	72.8	12.97
4	540154113237	SBD	15	132.37	12.96
4	540154017022	SBD	15	170.22	12.87
4	540154005259	SBD	15	52.59	12.87
4	540584101670	SBD	58	16.7	12.70
4	540150006386	SBD	15	63.86	12.67
4	540150015132	SBD	15	151.32	12.47
4	540150015255	SBD	15	152.55	12.47
4	560740004380	RIV	74	43.8	12.35
4	560740004377	RIV	74	43.77	12.28
4	540580102166	SBD	58	21.66	12.24
4	540580102200	SBD	58	22	12.22
4	563714007053	RIV	371	70.53	12.19
4	560624100609	RIV	62	6.09	11.71
4	540150007079	SBD	15	70.79	11.50
4	560108100008	RIV	10	0.08	11.35
4	540156006909	SBD	15	69.09	11.33
5	540150006386	SBD	15	63.86	11.08
5	540580101999	SBD	58	19.99	11.07
5	540580101999	SBD	58	19.99	11.06
5	540580102159	SBD	58	21.59	11.06
5	540580102159	SBD	58	21.59	11.06
5	540580102209	SBD	58	22.09	11.01
5	540580102209	SBD	58	22.09	11.01
5	540580101962	SBD	58	19.62	10.99

Priority	Culvert System Number	County ¹⁴	Route	Postmile	Cross-Hazard Prioritization Score
5	540580101962	SBD	58	19.62	10.99
5	540154007597	SBD	15	75.97	10.82
5	560104100116	RIV	10	1.16	10.75
5	540156006984	SBD	15	69.84	10.66
5	560104100116	RIV	10	1.16	10.60
5	540150015790	SBD	15	157.9	10.58
5	540150015815	SBD	15	158.15	10.58
5	540150015649	SBD	15	156.49	10.55
5	540150007079	SBD	15	70.79	10.53
5	540150015833	SBD	15	158.33	10.52
5	540154006733	SBD	15	67.33	10.50
5	560100108751	RIV	10	87.51	10.47
5	540154112379	SBD	15	123.79	10.46
5	540150015815	SBD	15	158.15	10.44
5	540150015649	SBD	15	156.49	10.42
5	540154006733	SBD	15	67.33	10.41
5	540154007827	SBD	15	78.27	10.39
5	540150015833	SBD	15	158.33	10.39
5	540152017330	SBD	15	173.3	10.29
5	540154007827	SBD	15	78.27	10.29
5	540404103941	SBD	40	39.41	10.24
5	540150015954	SBD	15	159.54	10.21
5	540150015861	SBD	15	158.61	10.19
5	540150015875	SBD	15	158.75	10.19
5	540150015975	SBD	15	159.75	10.16
5	540150015994	SBD	15	159.94	10.16
5	540400103479	SBD	40	34.79	10.16
5	540150015912	SBD	15	159.12	10.16
5	540154012497	SBD	15	124.97	10.13
5	540150015954	SBD	15	159.54	10.08
5	540150015861	SBD	15	158.61	10.06
5	540150015875	SBD	15	158.75	10.06
5	540150015975	SBD	15	159.75	10.03
5	540150015994	SBD	15	159.94	10.03
5	540150015912	SBD	15	159.12	10.03
5	540152017266	SBD	15	172.66	10.00
5	560151201162	RIV	15	11.62	9.93
5	560151201162	RIV	15	11.62	9.93
5	540152016898	SBD	15	168.98	9.81
5	540154005152	SBD	15	51.52	9.46

Priority	Culvert System Number	County ¹⁴	Route	Postmile	Cross-Hazard Prioritization Score
5	540154112809	SBD	15	128.09	9.36
5	540154112809	SBD	15	128.09	9.22
5	540154005152	SBD	15	51.52	9.22
5	560150004337	RIV	15	43.37	9.21
5	542474003203	SBD	247	32.03	9.07
5	540580101723	SBD	58	17.23	8.99
5	562156101860	RIV	215	18.6	8.94
5	562156101860	RIV	215	18.6	8.94
5	543954006656	SBD	395	66.56	8.87
5	560864000215	RIV	86	2.15	8.77
5	540156006909	SBD	15	69.09	8.73
5	540580101231	SBD	58	12.31	8.68
5	560150004337	RIV	15	43.37	8.66
5	543950006360	SBD	395	63.6	8.59
5	560790100710	RIV	79	7.1	8.57
5	543954004663	SBD	395	46.63	8.45
5	540150111728	SBD	15	117.28	8.41
5	540150112862	SBD	15	128.62	8.21
5	540150112862	SBD	15	128.62	8.02
5	540400100979	SBD	40	9.79	7.92
5	542474000029	SBD	247	0.29	7.86
5	560794000601	RIV	79	6.01	7.82
5	540400100979	SBD	40	9.79	7.75
5	543954005450	SBD	395	54.5	7.69
5	543954005242	SBD	395	52.42	7.65
5	543950003814	SBD	395	38.14	7.59
5	543950003842	SBD	395	38.42	7.58
5	540401003580	SBD	40	35.8	7.41
5	540401003580	SBD	40	35.8	7.39
5	543954004140	SBD	395	41.4	7.31
5	543954004164	SBD	395	41.64	7.30
5	543954004171	SBD	395	41.71	7.30
5	540150112951	SBD	15	129.51	7.29
5	540150007210	SBD	15	72.1	7.28
5	543954004132	SBD	395	41.32	7.28
5	543954004042	SBD	395	40.42	7.28
5	540150017098	SBD	15	170.98	7.15
5	540404103941	SBD	40	39.41	7.09
5	540404103901	SBD	40	39.01	7.06
5	540150006117	SBD	15	61.17	7.05

Priority	Culvert System Number	County ¹⁴	Route	Postmile	Cross-Hazard Prioritization Score
5	540400103479	SBD	40	34.79	7.01
5	540404103901	SBD	40	39.01	7.01
5	540400101243	SBD	40	12.43	6.92
5	540400101243	SBD	40	12.43	6.83
5	540154004950	SBD	15	49.5	6.81
5	540154110894	SBD	15	108.94	6.76
5	540400101695	SBD	40	16.95	6.66
5	540154004950	SBD	15	49.5	6.56
5	540400101695	SBD	40	16.95	6.56
5	540154004889	SBD	15	48.89	6.51
5	561110001674	RIV	111	16.74	6.50
5	540150015131	SBD	15	151.31	6.48
5	543950001760	SBD	395	17.6	6.29
5	540150015254	SBD	15	152.54	6.18
5	540150007046	SBD	15	70.46	5.83
5	540150111427	SBD	15	114.27	5.48
5	540150006117	SBD	15	61.17	5.46
5	540150111427	SBD	15	114.27	5.37
5	540150112267	SBD	15	122.67	5.27
5	540150112267	SBD	15	122.67	5.15
5	540150017155	SBD	15	171.55	5.12
5	540154112379	SBD	15	123.79	4.93
5	560864000708	RIV	86	7.08	4.45
5	560864000708	RIV	86	7.08	4.43
5	540154012497	SBD	15	124.97	4.31
5	560864000215	RIV	86	2.15	4.13
5	542474007678	SBD	247	76.78	3.70
5	540154110894	SBD	15	108.94	3.66
5	540150007210	SBD	15	72.1	3.54
5	540154110640	SBD	15	106.4	3.49
5	540154110789	SBD	15	107.89	3.49
5	540154110640	SBD	15	106.4	3.48
5	540154110789	SBD	15	107.89	3.48
5	540400100662	SBD	40	6.62	1.87
5	540400100638	SBD	40	6.38	1.67
5	540400100662	SBD	40	6.62	1.47
5	540400100638	SBD	40	6.38	1.26
5	540400100322	SBD	40	3.22	0.29
5	540400100322	SBD	40	3.22	0.00

TABLE 11: PRIORITIZATION OF ROADWAYS FOR DETAILED CLIMATE CHANGE ADAPTATION ASSESSMENTS

Priority	Route	Carriageway ¹⁵	From County & Postmile / To County & Postmile ¹⁶	Average Cross-Hazard Prioritization Score ¹⁷
1	215	P	RIV 215 R8.43 / RIV 215 R29.396	93.00
1	215	P	SBD 215 3.845 / SBD 215 8.572	93.00
1	215	S	RIV 215 R8.43 / RIV 215 R29.406	92.83
1	215	S	SBD 215 3.844 / SBD 215 8.539	92.83
1	15	S	RIV 15 10.039 / RIV 15 21.996	90.67
1	15	S	RIV 15 4.76 / RIV 15 9.285	90.67
1	15	S	RIV 15 51.472 / SBD 15 1.013	90.67
1	15	S	SBD 15 161.321 / SBD 15 181.154	90.67
1	15	S	SBD 15 56.317 / SBD 15 59.91	90.67
1	10	P	LA 10 48.264 / SBD 10 0.01	89.78
1	10	P	RIV 10 50.45 / RIV 10 R52.473	89.78
1	10	P	RIV 10 R19.394 / RIV 10 R24.346	89.78
1	10	P	SBD 10 9.178 / SBD 10 11.132	89.78
1	10	P	SBD 10 R23.244 / SBD 10 27.309	89.78
1	10	S	RIV 10 50.451 / RIV 10 R52.474	88.89
1	10	S	RIV 10 R19.742 / RIV 10 R24.555	88.89
1	10	S	SBD 10 0.005 / SBD 10 0.015	88.89
1	10	S	SBD 10 9.178 / SBD 10 11.133	88.89
1	10	S	SBD 10 R23.236 / SBD 10 27.309	88.89
1	15	P	RIV 15 10.033 / RIV 15 22.273	88.63
1	15	P	RIV 15 4.124 / RIV 15 9.465	88.63
1	15	P	RIV 15 51.465 / SBD 15 1.017	88.63
1	15	P	SBD 15 161.387 / SBD 15 181.126	88.63
1	15	P	SBD 15 56.261 / SBD 15 60.159	88.63
1	66	P	SBD 66 22.413 / SBD 66 23.156	88.26
1	66	P	SBD 66 S23.408 / SBD 66 S23.156	88.26
1	74	P	RIV 74 13.485 / RIV 74 R14.62	86.76
1	74	P	RIV 74 18.924 / RIV 74 22.939	86.76
1	74	P	RIV 74 25.089 / RIV 74 25.747	86.76
1	74	P	RIV 74 27.321 / RIV 74 27.53	86.76
1	74	P	RIV 74 27.54 / RIV 74 42.59	86.76
1	74	P	RIV 74 84.045 / RIV 74 R92.34	86.76

¹⁵ Caltrans’ alignment codes designate the carriageway on divided roadways: “P” always represents northbound or eastbound carriageways whereas “S” always represents southbound or westbound carriageways. Undivided roadways are always indicated with a “P”.

¹⁶ RIV = Riverside; SBD = San Bernardino

¹⁷ The average of the cross-hazard prioritization scores amongst all the abutting small segments on the same route sharing a common priority level that were aggregated to form the longer segments listed in this table.

Priority	Route	Carriageway ¹⁵	From County & Postmile / To County & Postmile ¹⁶	Average Cross-Hazard Prioritization Score ¹⁷
1	74	P	RIV 74 9.512 / RIV 74 12.102	86.76
1	74	S	RIV 74 13.518 / RIV 74 R14.206	86.37
1	74	S	RIV 74 18.72 / RIV 74 22.937	86.37
1	74	S	RIV 74 25.089 / RIV 74 25.747	86.37
1	74	S	RIV 74 27.321 / RIV 74 27.53	86.37
1	74	S	RIV 74 27.54 / RIV 74 29.97	86.37
1	74	S	RIV 74 31.299 / RIV 74 34.965	86.37
1	74	S	RIV 74 35.922 / RIV 74 36.031	86.37
1	74	S	RIV 74 37.429 / RIV 74 40.84	86.37
1	74	S	RIV 74 41.087 / RIV 74 42.59	86.37
1	18	S	SBD 18 51.61 / SBD 18 R48.925	86.13
1	18	S	SBD 18 53.526 / SBD 18 53.388	86.13
1	18	S	SBD 18 75.196 / SBD 18 74.893	86.13
1	18	S	SBD 18 75.642 / SBD 18 75.349	86.13
1	79	P	RIV 79 25.65 / RIV 79 26.401	86.00
1	79	P	RIV 79 M31.827 / RIV 79 R36.131	86.00
1	79	P	RIV 79 R4.228 / RIV 79 R19.158	86.00
1	18	P	LA 18 0.001 / SBD 18 110.213	85.88
1	18	P	SBD 18 58.308 / SBD 18 47.09	85.88
1	18	P	SBD 18 80.371 / SBD 18 68.219	85.88
1	79	S	RIV 79 25.65 / RIV 79 26.401	85.68
1	79	S	RIV 79 M33.768 / RIV 79 R36.131	85.68
1	79	S	RIV 79 R14.969 / RIV 79 R15.715	85.68
1	79	S	RIV 79 R4.228 / RIV 79 R12.584	85.68
1	38	P	SBD 38 20.569 / SBD 38 32.427	85.47
1	38	P	SBD 38 38.546 / SBD 38 49.52	85.47
1	38	P	SBD 38 49.53 / SBD 38 55.181	85.47
1	66	S	SBD 66 22.413 / SBD 66 22.86	85.39
1	138	P	LA 138 74.971 / SBD 138 3.611	85.05
1	138	S	SBD 138 0.965 / SBD 138 1.44	84.69
1	138	S	SBD 138 2.726 / SBD 138 2.959	84.69
1	247	P	SBD 247 24.115 / SBD 247 27.226	84.37
1	247	P	SBD 247 33.01 / SBD 247 45.116	84.37
1	247	P	SBD 247 44.86 / SBD 247 45.116	84.37
1	247	P	SBD 247 45.116 / SBD 247 44.836	84.37
1	247	P	SBD 247 45.116 / SBD 247 63.938	84.37
1	60	S	RIV 60 22.096 / RIV 60 29.667	77.94
1	60	S	SBD 60 R4.593 / SBD 60 R9.958	77.94

Priority	Route	Carriageway ¹⁵	From County & Postmile / To County & Postmile ¹⁶	Average Cross-Hazard Prioritization Score ¹⁷
1	60	P	RIV 60 22.287 / RIV 60 27.763	77.87
1	60	P	SBD 60 R4.594 / SBD 60 R0.004	77.87
1	71	P	RIV 71 R3.018 / RIV 71 2.821	74.34
1	91	P	RIV 91 5.189 / RIV 91 6.364	70.93
1	91	P	RIV 91 8.943 / RIV 91 9.189	70.93
1	91	P	RIV 91 R2.094 / RIV 91 R3.347	70.93
1	91	S	RIV 91 5.074 / RIV 91 6.365	70.85
1	91	S	RIV 91 8.988 / RIV 91 9.187	70.85
1	91	S	RIV 91 R2.063 / RIV 91 R3.307	70.85
2	91	S	RIV 91 6.365 / RIV 91 8.988	64.50
2	91	S	RIV 91 9.187 / RIV 91 22.068	64.50
2	91	S	RIV 91 R0.069 / RIV 91 R2.063	64.50
2	91	S	RIV 91 R3.307 / RIV 91 5.074	64.50
2	10	S	RIV 10 13.088 / RIV 10 R19.742	64.46
2	10	S	RIV 10 36.138 / RIV 10 44.497	64.46
2	10	S	RIV 10 7.572 / RIV 10 R11.97	64.46
2	10	S	RIV 10 R0.028 / RIV 10 7.321	64.46
2	10	S	RIV 10 R52.474 / RIV 10 R54.739	64.46
2	10	S	RIV 10 R56.606 / RIV 10 R57.508	64.46
2	10	S	SBD 10 0.015 / SBD 10 9.178	64.46
2	10	S	SBD 10 11.133 / SBD 10 R23.236	64.46
2	10	S	SBD 10 27.309 / SBD 10 30.39	64.46
2	10	S	SBD 10 31.256 / SBD 10 R36.886	64.46
2	10	P	RIV 10 13.102 / RIV 10 R19.394	64.29
2	10	P	RIV 10 36.395 / RIV 10 44.503	64.29
2	10	P	RIV 10 7.572 / RIV 10 R11.97	64.29
2	10	P	RIV 10 R52.473 / RIV 10 R54.739	64.29
2	10	P	RIV 10 R56.738 / RIV 10 R57.832	64.29
2	10	P	SBD 10 0.01 / SBD 10 9.178	64.29
2	10	P	SBD 10 11.132 / SBD 10 R23.244	64.29
2	10	P	SBD 10 27.309 / SBD 10 30.392	64.29
2	10	P	SBD 10 31.265 / SBD 10 R36.827	64.29
2	10	P	SBD 10 R38.959 / RIV 10 7.357	64.29
2	91	P	RIV 91 6.364 / RIV 91 8.943	64.26
2	91	P	RIV 91 9.189 / RIV 91 22.059	64.26
2	91	P	RIV 91 R0.069 / RIV 91 R2.094	64.26
2	91	P	RIV 91 R3.347 / RIV 91 5.189	64.26
2	15	P	RIV 15 22.273 / RIV 15 51.465	63.19

Priority	Route	Carriageway ¹⁵	From County & Postmile / To County & Postmile ¹⁶	Average Cross-Hazard Prioritization Score ¹⁷
2	15	P	RIV 15 9.465 / RIV 15 10.033	63.19
2	15	P	SBD 15 1.017 / SBD 15 16.374	63.19
2	15	P	SBD 15 R13.779 / SBD 15 R17.466	63.19
2	15	P	SBD 15 R28.689 / SBD 15 31.825	63.19
2	15	S	RIV 15 21.996 / RIV 15 35.464	63.14
2	15	S	RIV 15 35.922 / RIV 15 51.472	63.14
2	15	S	RIV 15 4.151 / RIV 15 4.76	63.14
2	15	S	RIV 15 9.285 / RIV 15 10.039	63.14
2	15	S	SBD 15 1.013 / SBD 15 R13.827	63.14
2	15	S	SBD 15 16.373 / SBD 15 R17.481	63.14
2	15	S	SBD 15 R28.883 / SBD 15 31.636	63.14
2	71	P	RIV 71 2.821 / RIV 71 R0.018	62.99
2	71	P	SBD 71 R3.577 / SBD 71 R3.36	62.99
2	215	S	RIV 215 43.898 / SBD 215 3.844	62.75
2	215	S	RIV 215 R31.151 / RIV 215 R37.433	62.75
2	215	S	RIV 215 R38.424 / RIV 215 42.646	62.75
2	215	S	SBD 215 8.539 / SBD 215 8.694	62.75
2	215	P	RIV 215 43.903 / SBD 215 3.845	62.55
2	215	P	RIV 215 R31.38 / RIV 215 R37.427	62.55
2	215	P	RIV 215 R38.302 / RIV 215 42.666	62.55
2	215	P	SBD 215 8.572 / SBD 215 8.714	62.55
2	60	S	RIV 60 18.266 / RIV 60 19.117	62.44
2	60	S	RIV 60 R11.75 / RIV 60 15.353	62.44
2	60	S	SBD 60 R0.004 / RIV 60 R4.593	62.44
2	60	S	SBD 60 R9.958 / RIV 60 12.543	62.44
2	60	P	RIV 60 17.867 / RIV 60 19.117	62.42
2	60	P	RIV 60 R0.004 / RIV 60 12.634	62.42
2	60	P	RIV 60 R11.863 / RIV 60 15.353	62.42
2	60	P	SBD 60 R0.001 / RIV 60 R4.594	62.42
2	210U	P	SBD 210U 15.528 / SBD 210U 15.767	60.22
2	210U	P	SBD 210U 19.266 / SBD 210U 19.378	60.22
2	210U	P	SBD 210U 20.339 / SBD 210U 21.232	60.22
2	210	P	LA 210 R52.149 / SBD 210 0.852	59.94
2	210	P	SBD 210 14.929 / SBD 210 15.936	59.94
2	210	P	SBD 210 6.913 / SBD 210 12.428	59.94
2	210	P	SBD 210 R21.865 / SBD 210 R21.99	59.94
2	210	P	SBD 210 R23.074 / SBD 210 R24.22	59.94
2	210	P	SBD 210 R25.736 / SBD 210 R26.76	59.94

Priority	Route	Carriageway ¹⁵	From County & Postmile / To County & Postmile ¹⁶	Average Cross-Hazard Prioritization Score ¹⁷
2	210	P	SBD 210 R26.857 / SBD 210 R27.397	59.94
2	210	P	SBD 210 R27.896 / SBD 210 R30.245	59.94
2	210	S	SBD 210 0.022 / SBD 210 0.858	59.81
2	210	S	SBD 210 14.929 / SBD 210 15.936	59.81
2	210	S	SBD 210 6.914 / SBD 210 12.429	59.81
2	210	S	SBD 210 R21.865 / SBD 210 R21.988	59.81
2	210	S	SBD 210 R23.093 / SBD 210 R24.219	59.81
2	210	S	SBD 210 R25.731 / SBD 210 R26.804	59.81
2	210	S	SBD 210 R26.848 / SBD 210 R27.394	59.81
2	210	S	SBD 210 R27.896 / SBD 210 R30.244	59.81
2	71	S	RIV 71 2.603 / RIV 71 1.973	59.42
2	71	S	SBD 71 R3.567 / SBD 71 R3.383	59.42
3	210	S	SBD 210 12.429 / SBD 210 14.929	58.17
3	210	S	SBD 210 15.936 / SBD 210 R21.865	58.17
3	210	S	SBD 210 R21.988 / SBD 210 R23.093	58.17
3	210	S	SBD 210 R24.219 / SBD 210 R25.731	58.17
3	210	S	SBD 210 R26.804 / SBD 210 R26.848	58.17
3	210	S	SBD 210 R27.394 / SBD 210 R27.896	58.17
3	210	S	SBD 210 R30.244 / SBD 210 R33.096	58.17
3	210	P	SBD 210 12.428 / SBD 210 14.929	58.15
3	210	P	SBD 210 15.936 / SBD 210 R21.865	58.15
3	210	P	SBD 210 R21.99 / SBD 210 R23.074	58.15
3	210	P	SBD 210 R24.22 / SBD 210 R25.736	58.15
3	210	P	SBD 210 R26.76 / SBD 210 R26.857	58.15
3	210	P	SBD 210 R27.397 / SBD 210 R27.896	58.15
3	210	P	SBD 210 R30.245 / SBD 210 R33.18	58.15
3	71	S	RIV 71 R0.018 / SBD 71 R3.567	57.71
3	71	S	SBD 71 R3.344 / SBD 71 R0.013	57.71
3	71	P	RIV 71 R0.018 / SBD 71 R3.577	57.37
3	71	P	SBD 71 R0.002 / SBD 71 R3.356	57.37
3	215	P	RIV 215 42.666 / RIV 215 43.903	56.77
3	215	P	RIV 215 R29.396 / RIV 215 R31.38	56.77
3	215	P	RIV 215 R37.427 / RIV 215 R38.302	56.77
3	215	P	SBD 215 14.925 / SBD 215 17.753	56.77
3	215	P	SBD 215 8.714 / SBD 215 13.91	56.77
3	10	S	RIV 10 44.497 / RIV 10 50.451	56.69
3	10	S	RIV 10 7.321 / RIV 10 7.572	56.69
3	10	S	RIV 10 R105.299 / RIV 10 R114.196	56.69

Priority	Route	Carriageway ¹⁵	From County & Postmile / To County & Postmile ¹⁶	Average Cross-Hazard Prioritization Score ¹⁷
3	10	S	RIV 10 R11.97 / RIV 10 13.088	56.69
3	10	S	RIV 10 R114.626 / RIV 10 R134.779	56.69
3	10	S	RIV 10 R146.905 / RIV 10 R149.152	56.69
3	10	S	RIV 10 R150.156 / RIV 10 R156.492	56.69
3	10	S	RIV 10 R54.739 / RIV 10 R56.606	56.69
3	10	S	RIV 10 R57.508 / RIV 10 R58.728	56.69
3	10	S	SBD 10 30.39 / SBD 10 31.256	56.69
3	10	S	SBD 10 R36.886 / RIV 10 R0.028	56.69
3	10	P	RIV 10 44.503 / RIV 10 50.45	56.54
3	10	P	RIV 10 7.357 / RIV 10 7.572	56.54
3	10	P	RIV 10 R105.282 / RIV 10 R114.189	56.54
3	10	P	RIV 10 R11.97 / RIV 10 13.102	56.54
3	10	P	RIV 10 R114.399 / RIV 10 R134.813	56.54
3	10	P	RIV 10 R146.906 / RIV 10 R149.153	56.54
3	10	P	RIV 10 R150.155 / RIV 10 R156.492	56.54
3	10	P	RIV 10 R54.739 / RIV 10 R56.738	56.54
3	10	P	RIV 10 R57.832 / RIV 10 R58.608	56.54
3	10	P	SBD 10 30.392 / SBD 10 31.265	56.54
3	10	P	SBD 10 R36.827 / SBD 10 R38.959	56.54
3	215	S	RIV 215 42.646 / RIV 215 43.898	56.43
3	215	S	RIV 215 R29.406 / RIV 215 R31.151	56.43
3	215	S	RIV 215 R37.433 / RIV 215 R38.424	56.43
3	215	S	SBD 215 14.924 / SBD 215 17.74	56.43
3	215	S	SBD 215 8.694 / SBD 215 13.851	56.43
3	15	S	SBD 15 149.769 / SBD 15 161.321	56.26
3	15	S	SBD 15 39.175 / SBD 15 55.954	56.26
3	15	S	SBD 15 R130.401 / SBD 15 149.442	56.26
3	15	S	SD 15 R54.23 / RIV 15 4.151	56.26
3	210U	S	SBD 210U 19.378 / SBD 210U 20.339	56.02
3	210U	S	SBD 210U 21.232 / SBD 210U 21.774	56.02
3	15	P	RIV 15 R0.025 / RIV 15 4.124	56.00
3	15	P	SBD 15 149.76 / SBD 15 161.387	56.00
3	15	P	SBD 15 38.818 / SBD 15 55.735	56.00
3	15	P	SBD 15 R130.373 / SBD 15 147.065	56.00
3	60	S	RIV 60 15.353 / RIV 60 18.266	55.80
3	60	S	RIV 60 19.117 / RIV 60 22.096	55.80
3	60	S	RIV 60 29.667 / RIV 60 30.459	55.80
3	60	P	RIV 60 15.353 / RIV 60 17.867	55.67

Priority	Route	Carriageway ¹⁵	From County & Postmile / To County & Postmile ¹⁶	Average Cross-Hazard Prioritization Score ¹⁷
3	60	P	RIV 60 19.117 / RIV 60 22.287	55.67
3	60	P	RIV 60 27.763 / RIV 60 30.495	55.67
3	210U	P	SBD 210U 15.767 / SBD 210U 19.266	55.51
3	210U	P	SBD 210U 19.378 / SBD 210U 20.339	55.51
3	210U	P	SBD 210U 21.232 / SBD 210U 21.666	55.51
3	142	P	SBD 142 2.718 / SBD 142 5.782	54.67
3	79	P	RIV 79 13.862 / RIV 79 15.74	54.04
3	79	P	RIV 79 M31.71 / RIV 79 M31.827	54.04
3	79	P	RIV 79 R36.131 / RIV 79 40.449	54.04
3	259	P	SBD 259 L0 / SBD 259 1.515	53.86
3	18	P	SBD 18 47.09 / SBD 18 46.544	53.85
3	18	P	SBD 18 96.568 / SBD 18 92.289	53.85
3	18	P	SBD 18 99.67 / SBD 18 R96.578	53.85
3	18	P	SBD 18 T7.547 / SBD 18 T6.148	53.85
3	74	P	RIV 74 12.102 / RIV 74 13.485	53.58
3	74	P	RIV 74 24.573 / RIV 74 25.089	53.58
3	74	P	RIV 74 42.59 / RIV 74 42.838	53.58
3	74	P	RIV 74 46.933 / RIV 74 R47.346	53.58
3	74	P	RIV 74 48.096 / RIV 74 48.588	53.58
3	74	P	RIV 74 6.664 / RIV 74 9.512	53.58
3	74	P	RIV 74 R14.62 / RIV 74 18.924	53.58
3	259	S	SBD 259 L0.001 / SBD 259 1.515	53.58
3	18	S	SBD 18 96.568 / SBD 18 92.29	53.48
3	18	S	SBD 18 98.813 / SBD 18 R96.578	53.48
3	18	S	SBD 18 T6.148 / SBD 18 T6.148	53.48
3	18	S	SBD 18 T6.148 / SBD 18 T7.547	53.48
3	86	P	RIV 86 0 / RIV 86 R15.528	53.35
3	86	P	RIV 86 R15.534 / RIV 86 R20.428	53.35
3	86	P	RIV 86 R22.414 / RIV 86 R23.191	53.35
3	83	P	SBD 83 R0 / SBD 83 11.113	53.35
3	86	S	RIV 86 0.02 / RIV 86 R23.18	53.28
3	83	S	SBD 83 1.123 / SBD 83 2.052	53.23
3	83	S	SBD 83 3.659 / SBD 83 11.112	53.23
3	83	S	SBD 83 R0 / SBD 83 R0.36	53.23
3	111	P	RIV 111 18.427 / RIV 111 R19.294	53.22
3	111	P	RIV 111 T48.123 / RIV 111 T48.529	53.22
3	111	P	RIV 111 T51.311 / RIV 111 T52.875	53.22
3	111	P	RIV 111 T53.492 / RIV 111 56.793	53.22

Priority	Route	Carriageway ¹⁵	From County & Postmile / To County & Postmile ¹⁶	Average Cross-Hazard Prioritization Score ¹⁷
3	40	S	SBD 40 R133.034 / SBD 40 R139.135	53.18
3	40	S	SBD 40 R141.003 / SBD 40 R154.641	53.18
3	40	P	SBD 40 R132.74 / SBD 40 R139.116	53.18
3	40	P	SBD 40 R141.017 / SBD 40 R154.643	53.18
3	142	S	SBD 142 4.613 / SBD 142 5.428	53.13
3	142	S	SBD 142 R3.858 / SBD 142 R4.335	53.13
3	66	P	SBD 66 20.14 / SBD 66 21.347	53.05
3	66	P	SBD 66 21.921 / SBD 66 22.369	53.05
3	38	P	SBD 38 0.063 / SBD 38 3.684	53.03
3	38	P	SBD 38 4.349 / SBD 38 R5.24	53.03
3	38	P	SBD 38 5.478 / SBD 38 8.186	53.03
3	38	P	SBD 38 S0.598 / SBD 38 0.011	53.03
3	38	P	SBD 38 S0.598 / SBD 38 S0.5	53.03
3	74	S	RIV 74 12.371 / RIV 74 12.999	52.86
3	74	S	RIV 74 24.574 / RIV 74 25.089	52.86
3	74	S	RIV 74 42.59 / RIV 74 42.838	52.86
3	74	S	RIV 74 R16.302 / RIV 74 18.72	52.86
3	38	S	SBD 38 S0.822 / SBD 38 0.01	52.77
3	66	S	SBD 66 20.14 / SBD 66 21.28	52.77
3	395	P	SBD 395 29.698 / SBD 395 33.182	52.69
3	395	P	SBD 395 33.785 / SBD 395 37.562	52.69
3	79	S	RIV 79 37.745 / RIV 79 39.182	52.67
3	111	S	RIV 111 55.262 / RIV 111 56.333	52.40
4	66	S	SBD 66 21.347 / SBD 66 21.921	51.82
4	66	S	SBD 66 22.369 / SBD 66 22.413	51.82
4	66	P	SBD 66 21.347 / SBD 66 21.921	51.81
4	66	P	SBD 66 22.369 / SBD 66 22.413	51.81
4	210U	P	SBD 210U 21.666 / SBD 210U 22.003	51.69
4	210U	S	SBD 210U 21.774 / SBD 210U 22.003	51.69
4	395	P	SBD 395 21.088 / SBD 395 24.358	51.65
4	395	P	SBD 395 26.901 / SBD 395 29.698	51.65
4	395	S	SBD 395 21.613 / SBD 395 24.628	51.60
4	395	S	SBD 395 27.371 / SBD 395 29.698	51.60
4	38	S	SBD 38 0.01 / SBD 38 0.063	51.56
4	38	S	SBD 38 3.684 / SBD 38 4.349	51.56
4	38	S	SBD 38 R5.24 / SBD 38 5.478	51.56
4	74	S	RIV 74 22.937 / RIV 74 24.574	51.45
4	74	S	RIV 74 42.838 / RIV 74 46.933	51.45

Priority	Route	Carriageway ¹⁵	From County & Postmile / To County & Postmile ¹⁶	Average Cross-Hazard Prioritization Score ¹⁷
4	74	S	RIV 74 R47.346 / RIV 74 48.096	51.45
4	74	P	RIV 74 22.939 / RIV 74 24.573	51.36
4	74	P	RIV 74 3.537 / RIV 74 6.664	51.36
4	74	P	RIV 74 42.838 / RIV 74 46.933	51.36
4	74	P	RIV 74 48.588 / RIV 74 58.28	51.36
4	74	P	RIV 74 80.896 / RIV 74 84.045	51.36
4	74	P	RIV 74 R47.346 / RIV 74 48.096	51.36
4	79	P	RIV 79 0 / RIV 79 13.862	51.36
4	18	P	SBD 18 110.213 / SBD 18 106.646	51.32
4	18	P	SBD 18 46.544 / SBD 18 42.369	51.32
4	18	P	SBD 18 61.273 / SBD 18 58.308	51.32
4	18	P	SBD 18 68.219 / SBD 18 66.63	51.32
4	18	P	SBD 18 R13.152 / SBD 18 T7.547	51.32
4	18	P	SBD 18 T6.235 / SBD 18 T6.024	51.32
4	330	P	SBD 330 R28.696 / SBD 330 32.864	51.24
4	330	S	SBD 330 R28.761 / SBD 330 T30.233	51.23
4	243	P	RIV 243 20.636 / RIV 243 29.701	51.09
4	371	P	RIV 371 R56.467 / RIV 371 62.27	51.03
4	95	S	RIV 95 L0 / RIV 95 L0.243	50.91
4	78	P	IMP 78 80.743 / RIV 78 16.412	50.71
4	247	P	SBD 247 16.314 / SBD 247 24.115	50.71
4	247	P	SBD 247 27.449 / SBD 247 33.01	50.71
4	247	P	SBD 247 63.938 / SBD 247 68.684	50.71
4	127	P	SBD 127 L0 / SBD 127 38.651	50.70
4	177	P	RIV 177 6.72 / RIV 177 27.024	50.62
4	78	S	RIV 78 0.001 / RIV 78 0.005	50.58
4	18	S	SBD 18 67.685 / SBD 18 67.163	50.42
4	18	S	SBD 18 T6.024 / SBD 18 T6.148	50.42
4	18	S	SBD 18 T6.148 / SBD 18 T6.148	50.42
4	18	S	SBD 18 T6.148 / SBD 18 T6.235	50.42
4	18	S	SBD 18 T7.547 / SBD 18 R13.293	50.42
4	38	P	SBD 38 0.011 / SBD 38 0.063	50.40
4	38	P	SBD 38 3.684 / SBD 38 4.349	50.40
4	38	P	SBD 38 32.427 / SBD 38 38.546	50.40
4	38	P	SBD 38 55.181 / SBD 38 59.396	50.40
4	38	P	SBD 38 8.186 / SBD 38 8.53	50.40
4	38	P	SBD 38 R5.24 / SBD 38 5.478	50.40
4	38	P	SBD 38 S0.5 / SBD 38 S0.372	50.40

Priority	Route	Carriageway ¹⁵	From County & Postmile / To County & Postmile ¹⁶	Average Cross-Hazard Prioritization Score ¹⁷
4	95	P	RIV 95 L0 / SBD 95 13.841	50.19
4	95	P	SBD 95 22.227 / SBD 95 35.622	50.19
4	95	P	SBD 95 46.045 / SBD 95 57.275	50.19
4	95	P	SBD 95 R57.215 / SBD 95 R57.256	50.19
4	111	P	IMP 111 65.394 / RIV 111 7.67	49.09
4	111	P	RIV 111 47.212 / RIV 111 T48.123	49.09
4	111	P	RIV 111 56.793 / RIV 111 R63.378	49.09
4	111	P	RIV 111 9.002 / RIV 111 18.478	49.09
4	111	P	RIV 111 T48.529 / RIV 111 T51.311	49.09
4	111	P	RIV 111 T52.875 / RIV 111 T53.492	49.09
4	111	S	RIV 111 47.212 / RIV 111 T48.123	47.14
4	111	S	RIV 111 56.834 / RIV 111 R63.37	47.14
4	111	S	RIV 111 T48.529 / RIV 111 T51.311	47.14
4	111	S	RIV 111 T52.875 / RIV 111 T53.492	47.14
4	91	S	ORA 91 R18.899 / RIV 91 R0.069	42.53
4	91	P	RIV 91 R0.001 / RIV 91 R0.069	42.53
4	10	S	RIV 10 R114.196 / RIV 10 R114.626	40.64
4	10	S	RIV 10 R134.779 / RIV 10 R146.905	40.64
4	10	S	RIV 10 R149.152 / RIV 10 R150.156	40.64
4	10	S	RIV 10 R24.629 / RIV 10 36.138	40.64
4	10	S	RIV 10 R58.728 / RIV 10 R70.874	40.64
4	10	S	RIV 10 R86.323 / RIV 10 R105.299	40.64
4	210	S	SBD 210 0.858 / SBD 210 6.914	39.00
4	210	P	SBD 210 0.852 / SBD 210 6.913	38.66
4	10	P	RIV 10 R114.189 / RIV 10 R114.399	38.28
4	10	P	RIV 10 R134.813 / RIV 10 R146.906	38.28
4	10	P	RIV 10 R149.153 / RIV 10 R150.155	38.28
4	10	P	RIV 10 R24.553 / RIV 10 36.395	38.28
4	10	P	RIV 10 R58.608 / RIV 10 R70.847	38.28
4	10	P	RIV 10 R86.336 / RIV 10 R105.282	38.28
4	62	P	RIV 62 0 / RIV 62 R1.907	33.67
4	62	P	RIV 62 86.588 / SBD 62 111.859	33.67
4	62	P	SBD 62 117.052 / SBD 62 127.867	33.67
4	62	P	SBD 62 132.679 / SBD 62 142.718	33.67
4	62	P	SBD 62 25.364 / SBD 62 34.223	33.67
4	62	P	SBD 62 78.375 / RIV 62 83.406	33.67
4	15	S	RIV 15 35.464 / RIV 15 35.922	33.24
4	15	S	SBD 15 149.442 / SBD 15 149.769	33.24

Priority	Route	Carriageway ¹⁵	From County & Postmile / To County & Postmile ¹⁶	Average Cross-Hazard Prioritization Score ¹⁷
4	15	S	SBD 15 76.874 / SBD 15 R130.401	33.24
4	15	S	SBD 15 R17.481 / SBD 15 R28.883	33.24
4	15	P	RIV 15 R0.001 / RIV 15 R0.025	32.70
4	15	P	SBD 15 147.065 / SBD 15 149.76	32.70
4	15	P	SBD 15 78.58 / SBD 15 R130.373	32.70
4	15	P	SBD 15 R17.466 / SBD 15 R28.689	32.70
4	215	S	SBD 215 13.851 / SBD 215 14.924	31.55
4	215	P	SBD 215 13.91 / SBD 215 14.925	31.55
4	86	P	RIV 86 R15.528 / RIV 86 R15.534	30.30
4	86	P	RIV 86 R20.428 / RIV 86 R22.414	30.30
4	40	P	SBD 40 R139.116 / SBD 40 R141.017	30.06
4	40	P	SBD 40 R7.187 / SBD 40 R77.897	30.06
4	40	P	SBD 40 R78.46 / SBD 40 R132.74	30.06
4	40	S	SBD 40 R115.582 / SBD 40 R133.034	29.36
4	40	S	SBD 40 R139.135 / SBD 40 R141.003	29.36
4	40	S	SBD 40 R7.188 / SBD 40 R77.915	29.36
4	40	S	SBD 40 R78.419 / SBD 40 R114.926	29.36
4	142	P	SBD 142 0.001 / SBD 142 2.718	27.53
4	138	P	SBD 138 R15.12 / SBD 138 R15.217	27.19
4	62	S	RIV 62 0 / RIV 62 R1.895	26.96
4	62	S	SBD 62 25.218 / SBD 62 29.674	26.96
4	62	S	SBD 62 30.084 / SBD 62 30.651	26.96
4	62	S	SBD 62 30.984 / SBD 62 32.173	26.96
5	95	P	SBD 95 13.841 / SBD 95 22.227	26.18
5	95	P	SBD 95 35.622 / SBD 95 46.045	26.18
5	95	P	SBD 95 R57.256 / SBD 95 80.453	26.18
5	371	P	RIV 371 62.27 / RIV 371 77.148	25.68
5	138	S	SBD 138 9.497 / SBD 138 9.616	25.65
5	138	S	SBD 138 R15.321 / SBD 138 R16.047	25.65
5	111	P	RIV 111 7.67 / RIV 111 9.002	25.50
5	371	S	RIV 371 71.6 / RIV 371 71.841	25.44
5	177	P	RIV 177 0 / RIV 177 6.72	25.42
5	127	P	SBD 127 38.651 / SBD 127 41.473	25.31
5	74	P	ORA 74 16.161 / ORA 74 16.224	23.53
5	74	P	RIV 74 0 / RIV 74 3.537	23.53
5	74	P	RIV 74 58.28 / RIV 74 80.896	23.53
5	178	P	KER 178 104.621 / SBD 178 14.778	21.39
5	138	P	SBD 138 3.611 / SBD 138 R15.12	20.81

Priority	Route	Carriageway ¹⁵	From County & Postmile / To County & Postmile ¹⁶	Average Cross-Hazard Prioritization Score ¹⁷
5	138	P	SBD 138 R15.217 / SBD 138 R37.848	20.81
5	38	P	SBD 38 8.53 / SBD 38 19.869	19.47
5	62	P	RIV 62 83.406 / RIV 62 86.588	14.40
5	62	P	RIV 62 R1.907 / SBD 62 2.847	14.40
5	62	P	SBD 62 111.859 / SBD 62 117.052	14.40
5	62	P	SBD 62 127.867 / SBD 62 132.679	14.40
5	62	P	SBD 62 14.098 / SBD 62 25.364	14.40
5	62	P	SBD 62 34.223 / SBD 62 78.375	14.40
5	330	P	SBD 330 32.864 / SBD 330 42.879	13.91
5	330	S	SBD 330 32.864 / SBD 330 33.37	12.98
5	330	S	SBD 330 37.21 / SBD 330 37.616	12.98
5	330	S	SBD 330 41.579 / SBD 330 42.356	12.98
5	243	P	RIV 243 0 / RIV 243 5.033	10.33
5	243	P	RIV 243 5.975 / RIV 243 6.765	10.33
5	243	P	RIV 243 9.779 / RIV 243 20.636	10.33
5	15	S	SBD 15 181.154 / SBD 15 186.238	8.22
5	15	S	SBD 15 34.27 / SBD 15 39.175	8.22
5	15	S	SBD 15 55.954 / SBD 15 56.317	8.22
5	15	S	SBD 15 59.91 / SBD 15 76.874	8.22
5	18	S	SBD 18 67.163 / SBD 18 66.63	8.09
5	18	S	SBD 18 92.29 / SBD 18 87.751	8.09
5	18	S	SBD 18 R13.293 / SBD 18 R17.827	8.09
5	15	P	SBD 15 181.126 / SBD 15 186.238	7.81
5	15	P	SBD 15 34.271 / SBD 15 38.818	7.81
5	15	P	SBD 15 55.735 / SBD 15 56.261	7.81
5	15	P	SBD 15 60.159 / SBD 15 78.58	7.81
5	10	S	RIV 10 R24.555 / RIV 10 R24.629	7.30
5	10	S	RIV 10 R70.874 / RIV 10 R86.323	7.30
5	10	P	RIV 10 R24.346 / RIV 10 R24.553	7.26
5	10	P	RIV 10 R70.847 / RIV 10 R86.336	7.26
5	18	P	SBD 18 103.219 / SBD 18 99.67	5.60
5	18	P	SBD 18 30.213 / SBD 18 R13.152	5.60
5	18	P	SBD 18 66.63 / SBD 18 61.273	5.60
5	18	P	SBD 18 92.289 / SBD 18 86.493	5.60
5	173	P	SBD 173 10.719 / SBD 173 23.04	5.26
5	173	P	SBD 173 L0 / SBD 173 L7.746	5.26
5	58	P	KER 58 R143.86 / SBD 58 R34.812	3.75
5	395	P	SBD 395 10.681 / SBD 395 21.088	2.32

Priority	Route	Carriageway ¹⁵	From County & Postmile / To County & Postmile ¹⁶	Average Cross-Hazard Prioritization Score ¹⁷
5	395	P	SBD 395 24.358 / SBD 395 26.901	2.32
5	395	P	SBD 395 33.182 / SBD 395 33.785	2.32
5	395	P	SBD 395 37.562 / KER 395 0	2.32
5	58	S	KER 58 R143.86 / SBD 58 T0.36	2.29
5	58	S	SBD 58 R12.572 / SBD 58 T22.562	2.29
5	58	S	SBD 58 R30.84 / SBD 58 R34.812	2.29
5	189	P	SBD 189 0 / SBD 189 5.565	2.16
5	40	S	SBD 40 0.149 / SBD 40 S0.735	1.99
5	40	S	SBD 40 R114.926 / SBD 40 R115.582	1.99
5	40	S	SBD 40 R77.915 / SBD 40 R78.419	1.99
5	40	S	SBD 40 S0.735 / SBD 40 R7.188	1.99
5	40	S	SBD 40 S0.735 / SBD 40 S0	1.99
5	40	S	SBD 40 S0.794 / SBD 40 S0.735	1.99
5	40	P	SBD 40 0.115 / SBD 40 0.798	1.98
5	40	P	SBD 40 0.798 / SBD 40 R7.187	1.98
5	40	P	SBD 40 0.798 / SBD 40 S0	1.98
5	40	P	SBD 40 R77.897 / SBD 40 R78.46	1.98
5	40	P	SBD 40 S0.794 / SBD 40 0.798	1.98
5	111	S	RIV 111 56.333 / RIV 111 56.834	1.87
5	247	S	SBD 247 77.47 / SBD 247 78.095	1.81
5	62	S	RIV 62 R1.895 / SBD 62 2.84	1.80
5	62	S	SBD 62 14.823 / SBD 62 16.651	1.80
5	62	S	SBD 62 17.149 / SBD 62 17.703	1.80
5	62	S	SBD 62 18.016 / SBD 62 19.021	1.80
5	62	S	SBD 62 20.392 / SBD 62 22.07	1.80
5	62	S	SBD 62 23.013 / SBD 62 24.2	1.80
5	395	S	SBD 395 10.681 / SBD 395 11.416	1.39
5	395	S	SBD 395 11.521 / SBD 395 11.727	1.39
5	395	S	SBD 395 19.101 / SBD 395 21.613	1.39
5	395	S	SBD 395 24.628 / SBD 395 27.371	1.39
5	247	P	SBD 247 13.767 / SBD 247 16.314	0.78
5	247	P	SBD 247 68.684 / SBD 247 78.095	0.78
5	2	P	SBD 2 2.712 / SBD 2 6.358	0.47

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