

Post Hurricane Zeta Road Assessment

CITY OF DIAMONDHEAD

Submitted to:

The City of Diamondhead
March 19, 2021

Submitted by:

Southern Mississippi Planning and Development District
and
Civil-Link, LLC



Overview

The Southern Mississippi Planning and Development District and Civil-Link (CL) were tasked by the City of Diamondhead to survey and analyze the debris haul routes utilized most during Hurricane Zeta clean-up, to determine if significant degradation has occurred since completion of the 2018 Road Maintenance and Improvements Plan. Utilizing similar methods as the 2018 study, CL completed the visual road assessment on March 5, 2021, and performed review and analysis of the data collected. Comparing the findings to the 2018 baseline established in the previous study, overall, no significant decline in conditions on the debris haul routes was detected.

Objective

Due to the extensive clean-up following Hurricane Zeta, the City of Diamondhead requested that a condition evaluation be performed to determine if there has been a substantial change in the City's road conditions between the 2018 city road survey and the current conditions.

Methodology

The City of Diamondhead provided a map with the roads selected to be surveyed under this project, totaling 19.8 miles. CL surveyed the roads the morning of March 5, 2021 using a truck-mounted camera system and assigned a road surface rating utilizing the PASER scale. The City of Diamondhead's roads were surveyed in 2018 using the same methodology. Maps were created to compare the previous ratings with current ratings. Also, to assess specific distresses to determine if degradation had occurred, the current video was reviewed and compared with historical imagery sources including the 2018 survey video and Google Street View 2013 and 2019 imagery.

Findings

Many of the surveyed roads match the previous ratings, with a few roads declining due to the normal aging of asphalt. For the purposes of this report, a slide of 1 RSR on the PASER Scale is considered normal aging within a 3 year period. Approximately 1.4 miles of the surveyed roads have been overlaid since the last study, so their ratings have increased and are reflected as such. Maps showing the 2021 and 2018 RSR ratings are provided as Exhibits A & B.

While normal aging was noted in some areas of the City, the imagery assessment is perhaps the more telling part of this survey. Along with comparing the overall road ratings, the video imagery was reviewed for distress comparison between the current imagery and historical sources. This review phase helped determine if specific damage had occurred that may have not been apparent in the overall roadway condition rating. Particular attention was paid to distresses along the wheel-paths, such as rutting, potholes, fatigue cracking, longitudinal cracking and mass cracking. Overall, the distresses found in the current video are present in the same locations and in the same general severity in the historical imagery reviewed. Comparison screenshots to display the road conditions and distresses between past and present at selected locations are included in Appendix A. The historical datasource that best shows the condition of the roadway was utilized for this comparison.

Conclusions

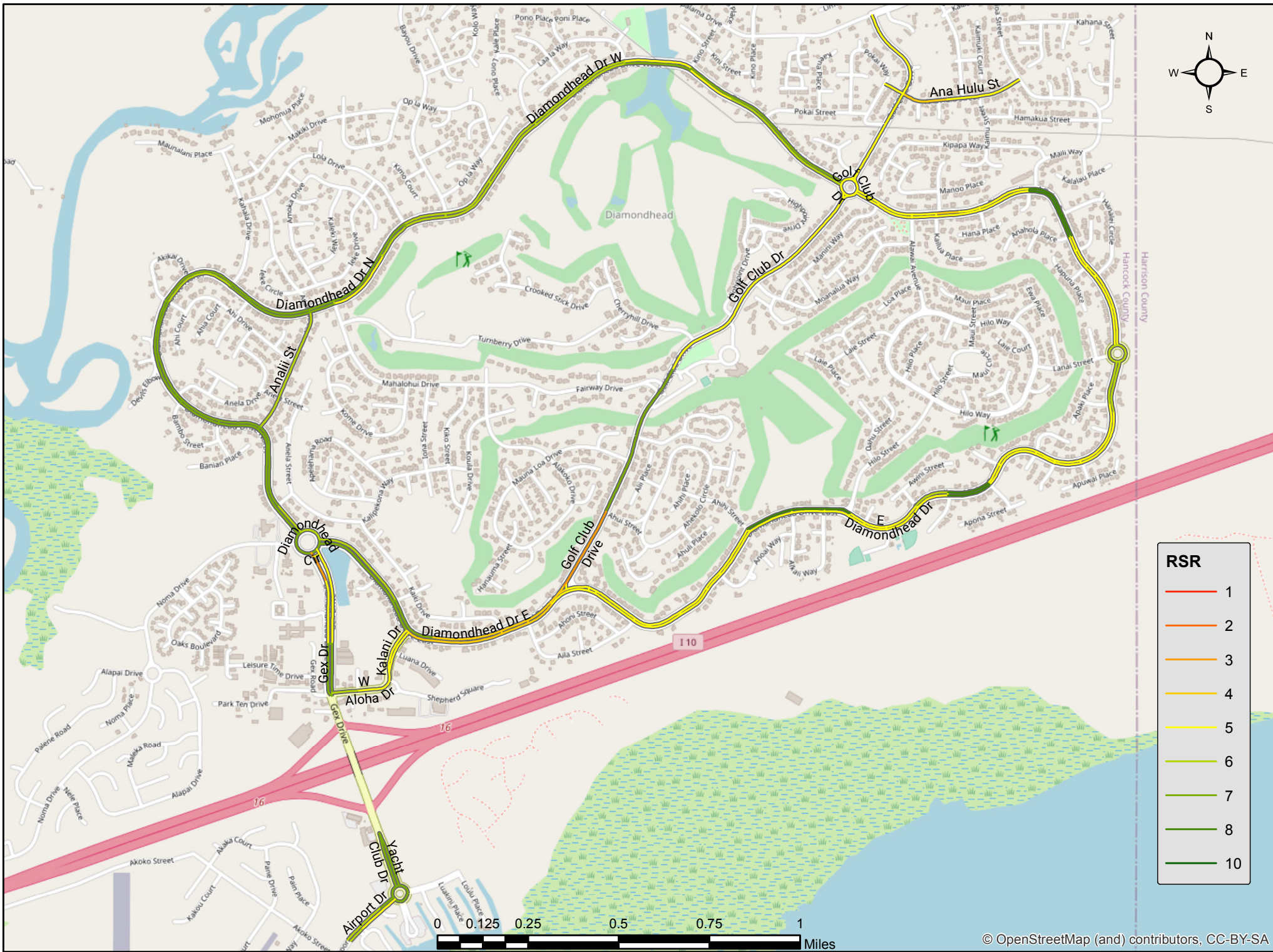
The current conditions of the roads are consistent with the previous road conditions and no abnormal degradation has occurred since the 2018 survey. Overall, the distresses currently visible on the roads generally match in severity and location with the historical datasources and are consistent with normal patterns of degradation over time. It does not appear that substantial changes have occurred.

Exhibit A - 2021 Debris Haul Route Conditions



RSR	
1	(Red line)
2	(Orange line)
3	(Yellow-orange line)
4	(Yellow line)
5	(Light green line)
6	(Green line)
7	(Light green line)
8	(Green line)
10	(Dark green line)

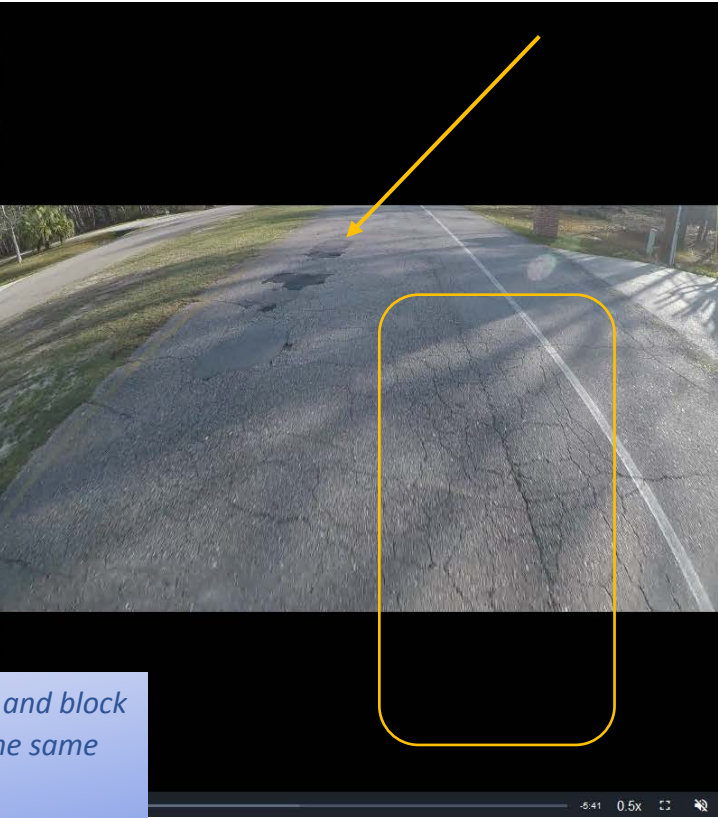
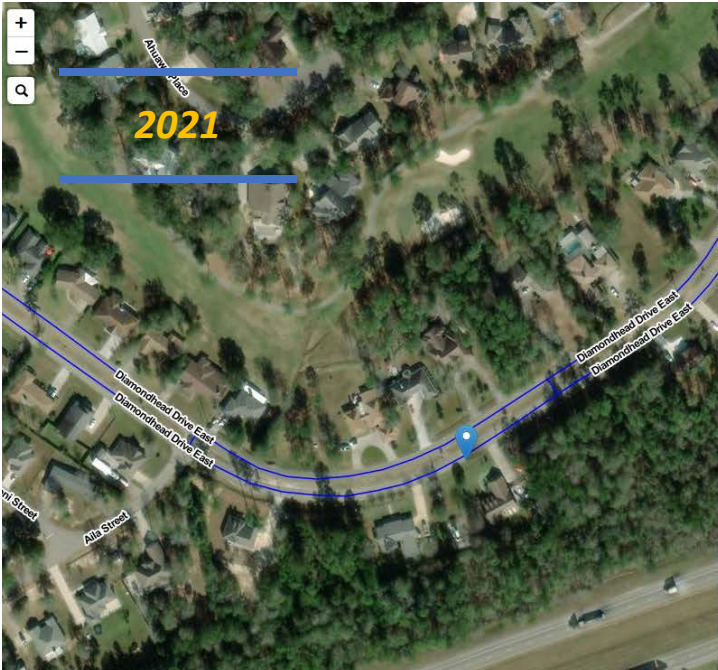
Exhibit B - 2018 Debris Haul Route Conditions



RSR	
1	Red
2	Orange
3	Light Orange
4	Yellow
5	Light Green
6	Yellow-Green
7	Green
8	Dark Green
10	Very Dark Green

Appendix A

Diamondhead Drive East



These distresses, potholes, mass cracking, transverse and block cracking, are visible in current and 2019 imagery in the same locations and general severity.



Diamondhead Drive East



These potholes and distresses have worsened over time, but they have been present since 2013. Current conditions are consistent with eight years of traffic over a distressed area such as this.



Diamondhead Drive West



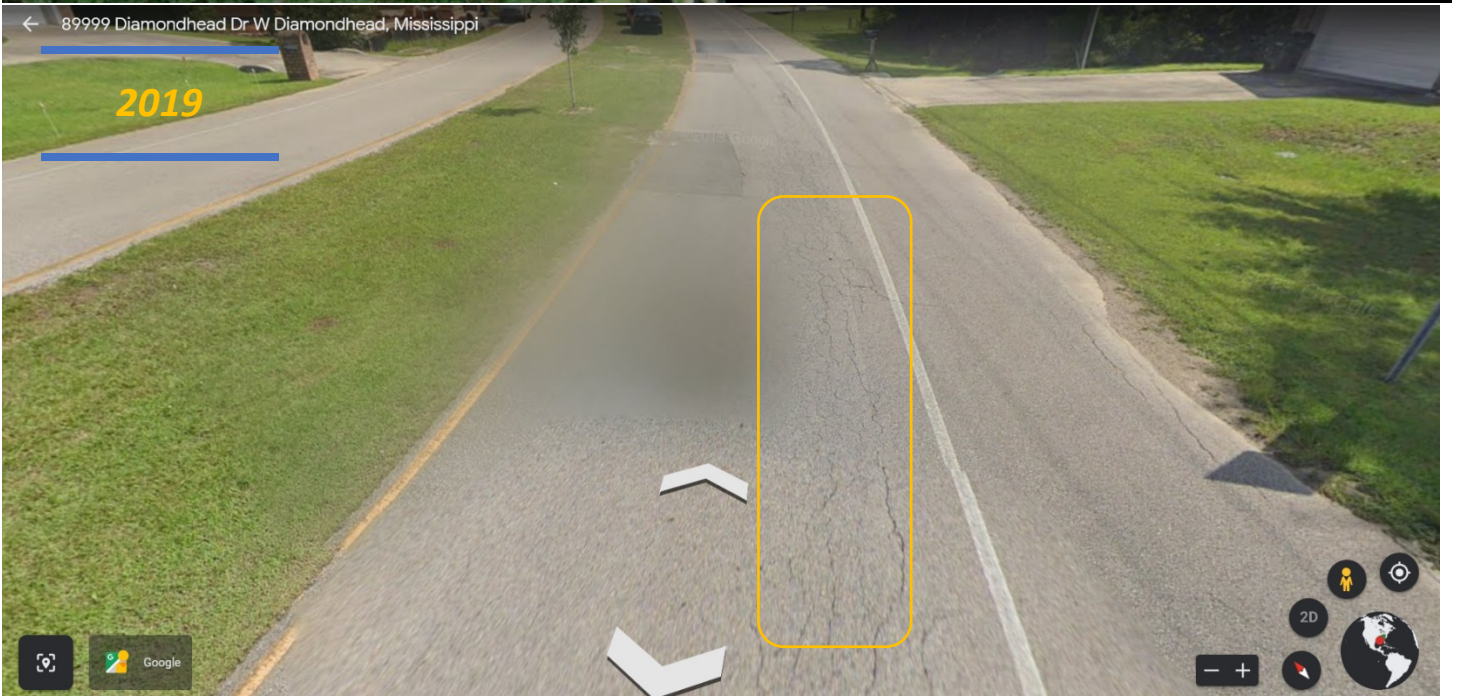
There is significant mass cracking and fatigue cracking along the area between Bayou Drive and 85553 DH Drive West. However, these issues were present in 2019 as indicated in the rectangular areas.



Diamondhead Drive West Continued



Fatigue cracking along the wheelpath was evident in 2019.



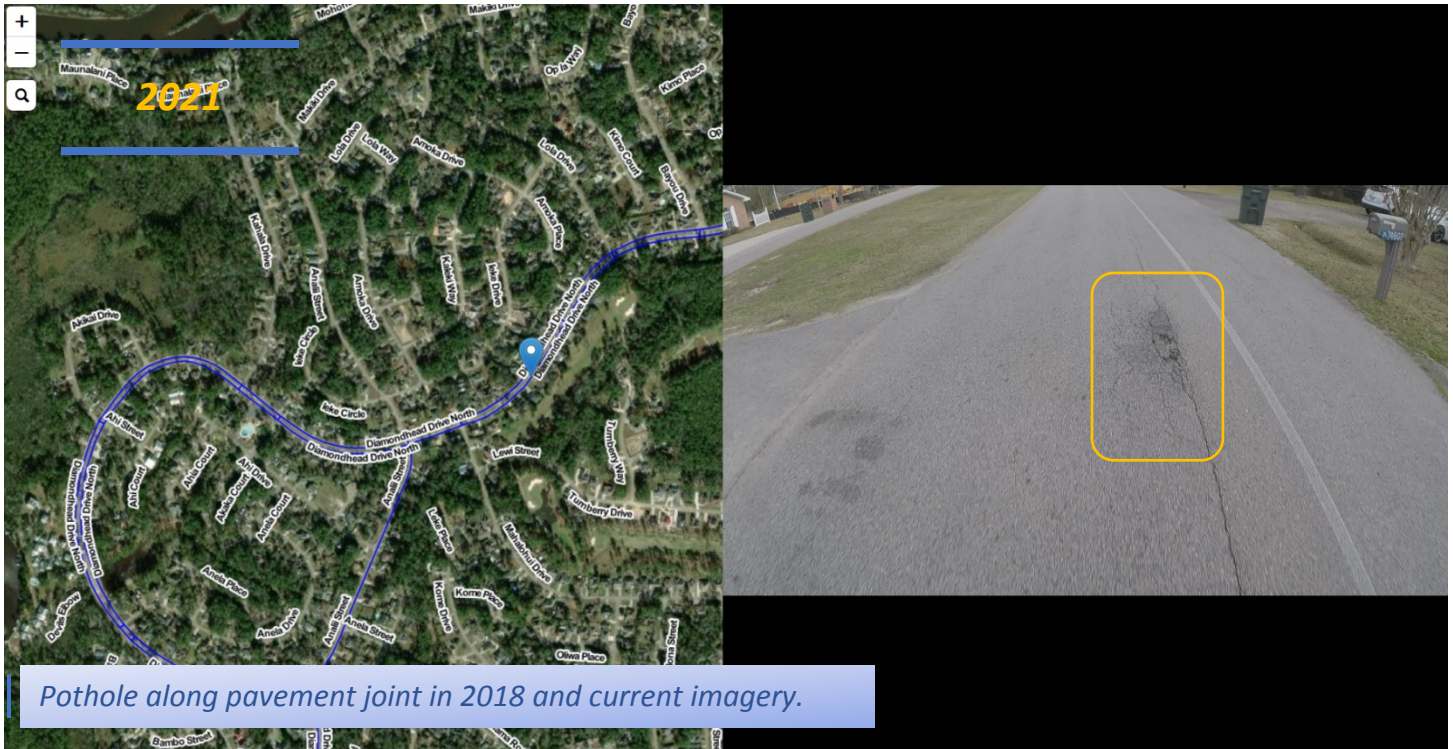
Diamondhead Drive North Shoving



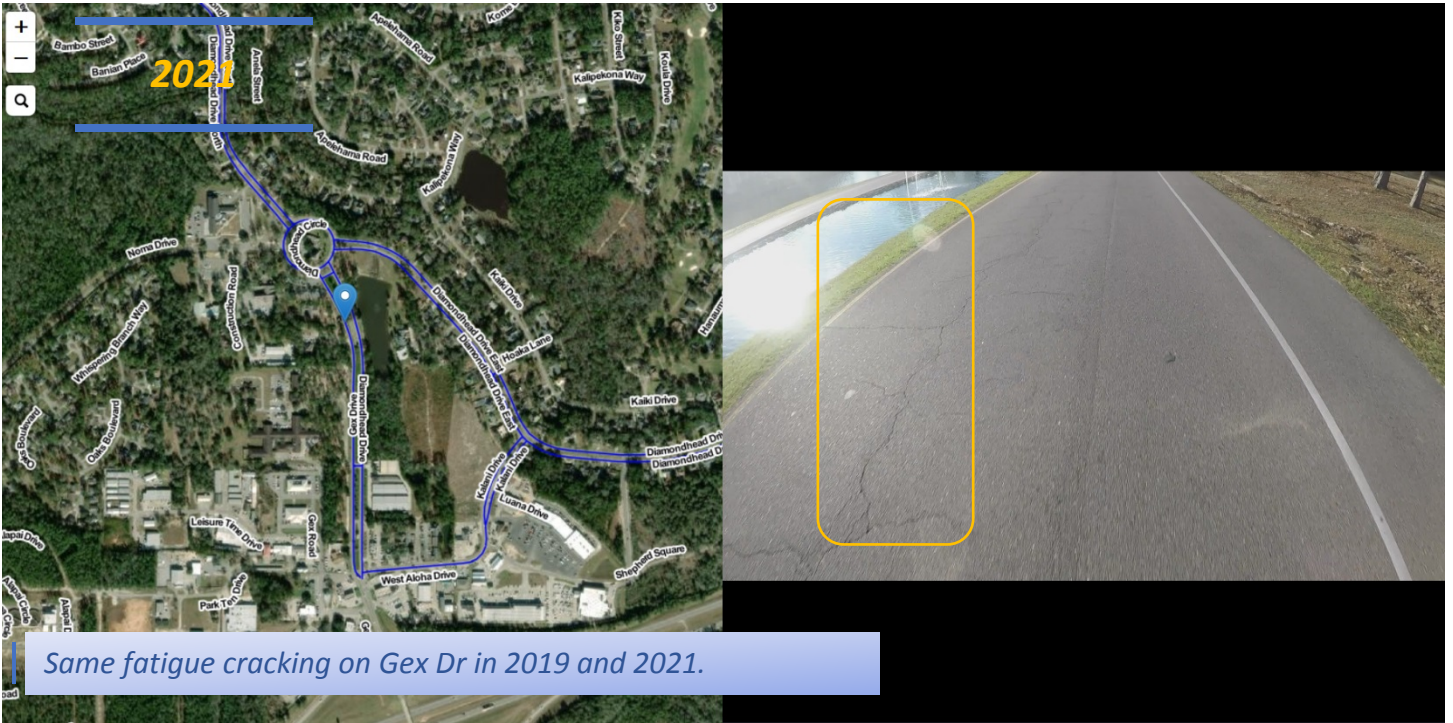
Severe shoving and fatigue cracking at the intersection of Bayou Drive and Diamondhead Drive West in past imagery and present.



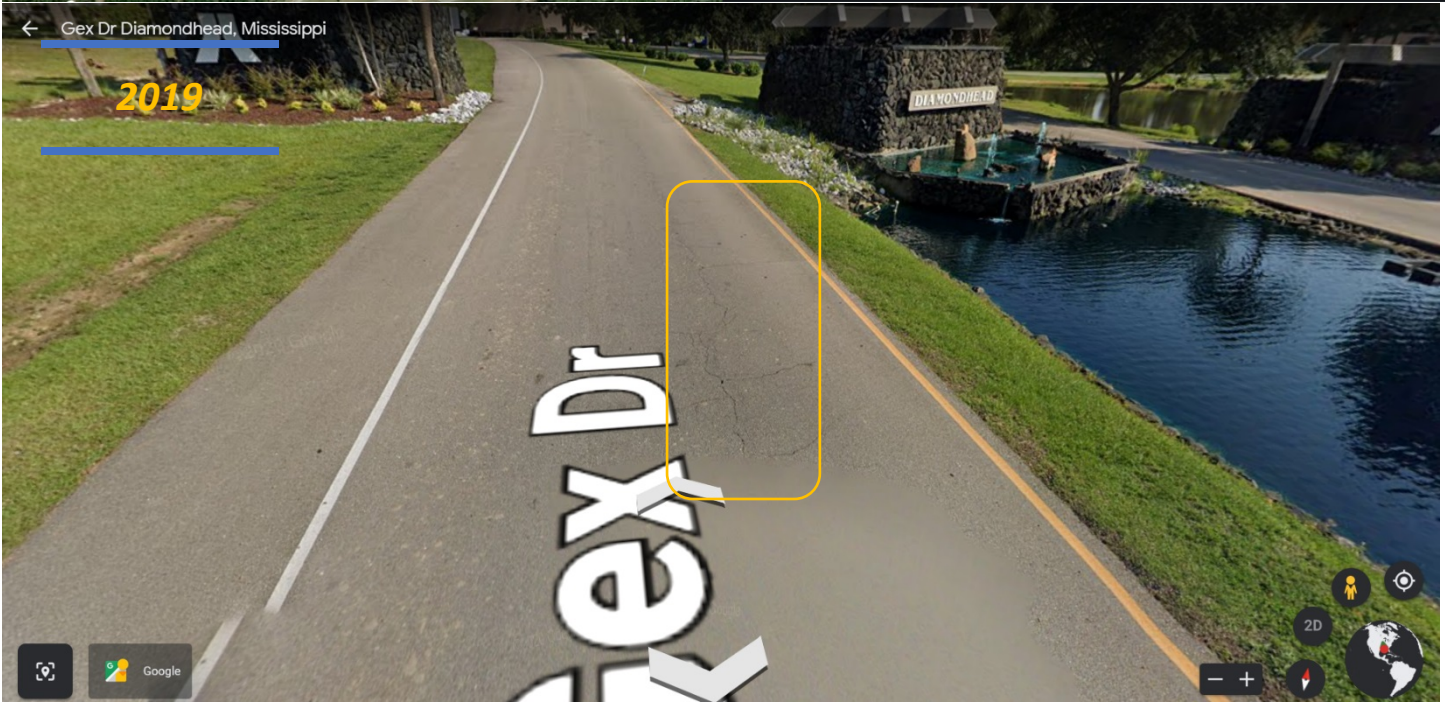
Diamondhead Drive North



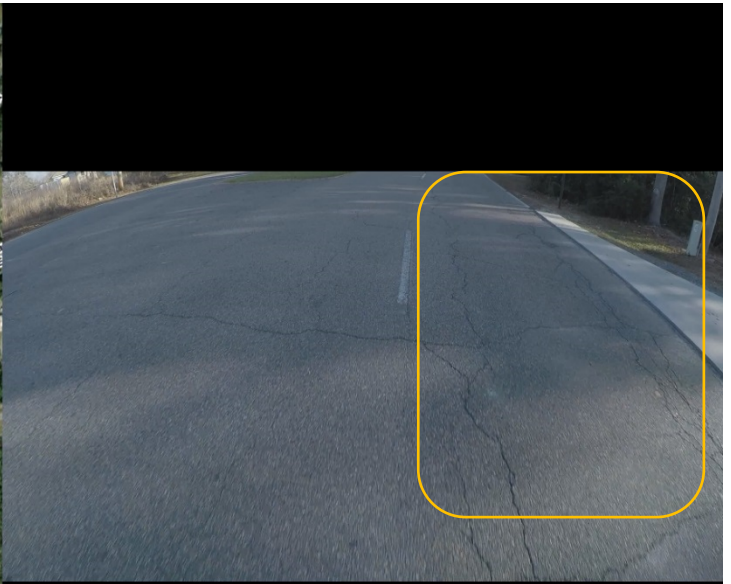
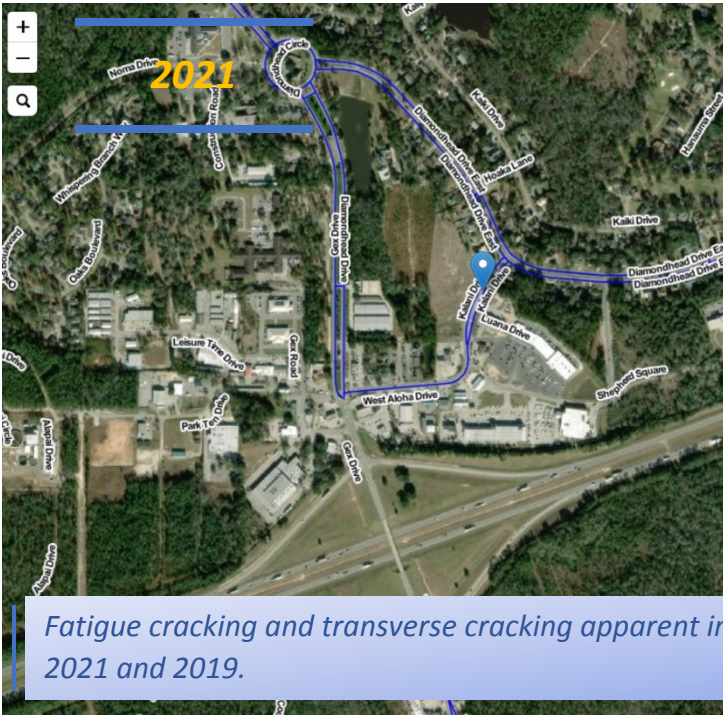
Gex Dr



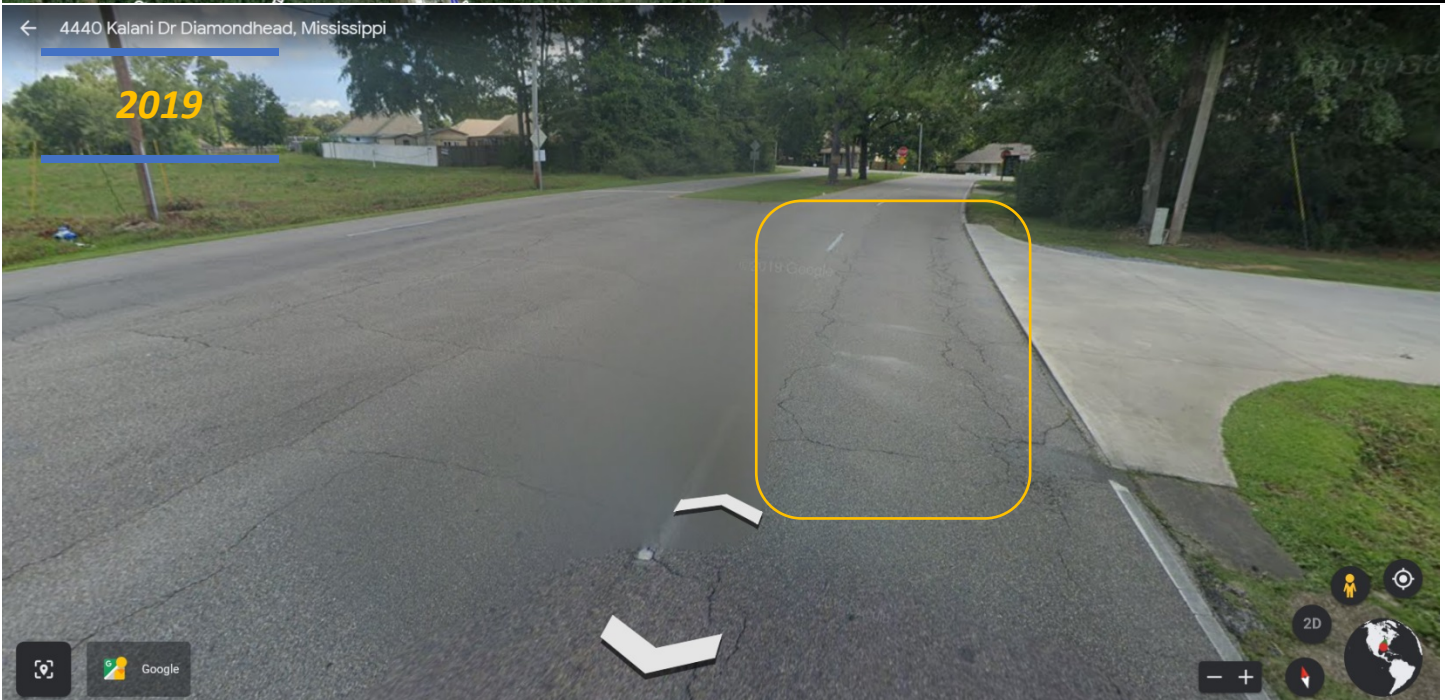
Same fatigue cracking on Gex Dr in 2019 and 2021.



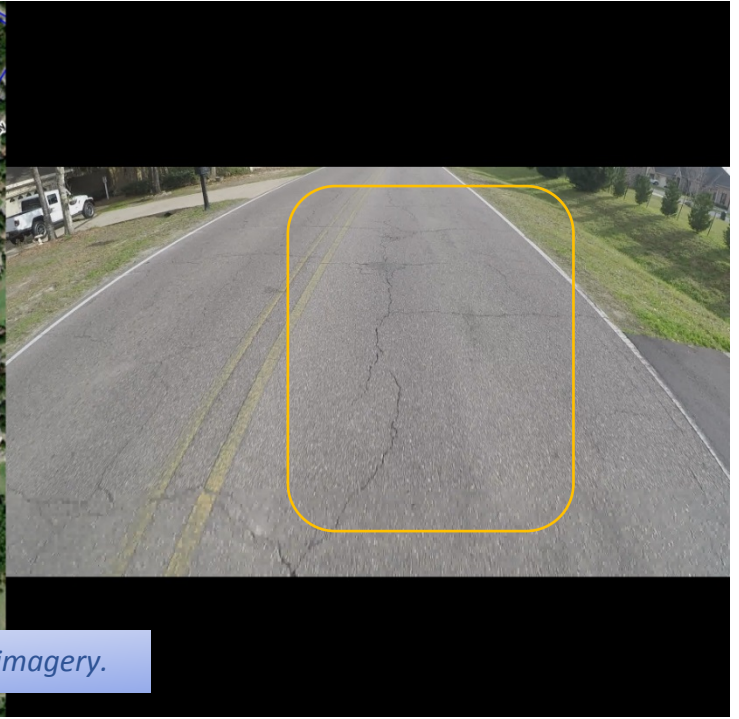
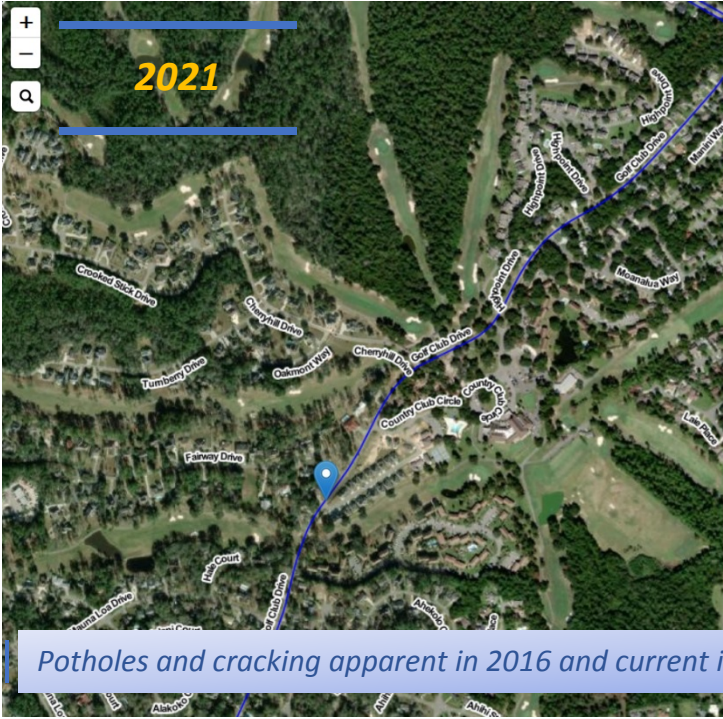
Kalani Dr



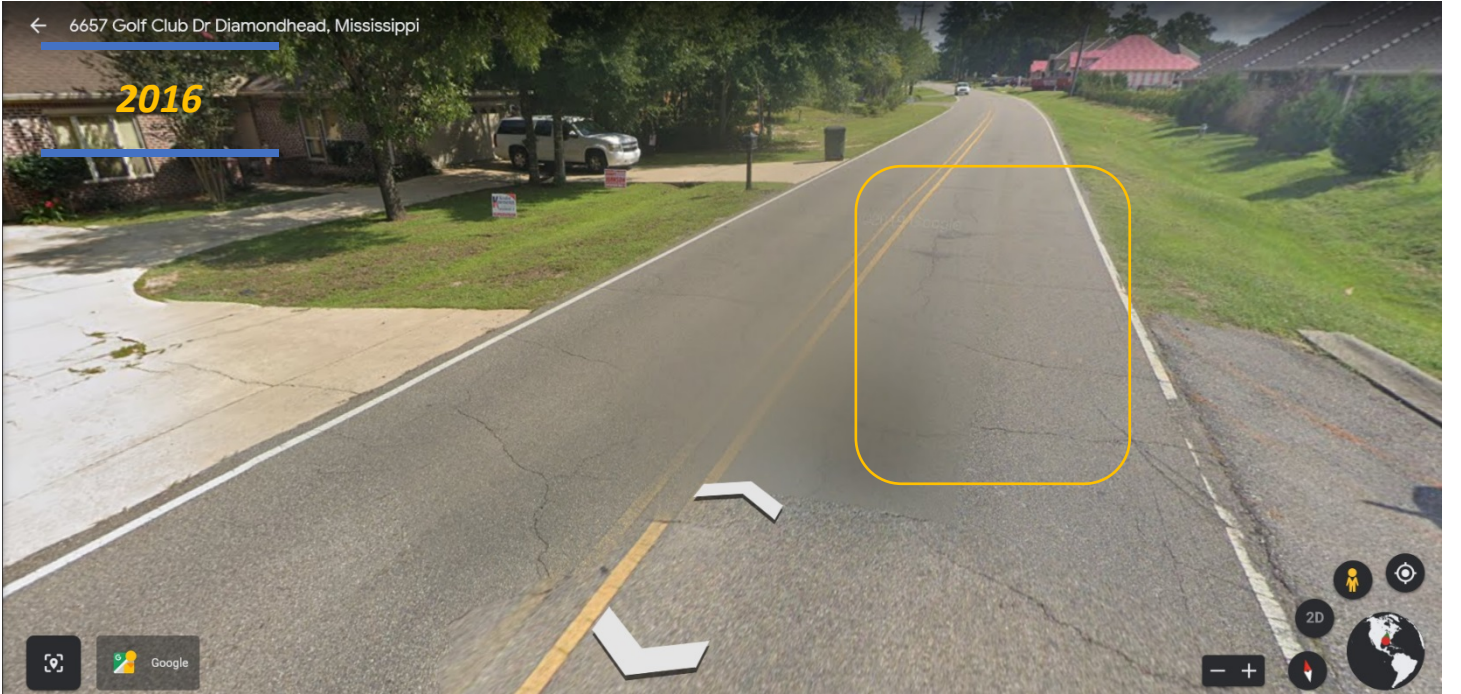
Fatigue cracking and transverse cracking apparent in both 2021 and 2019.



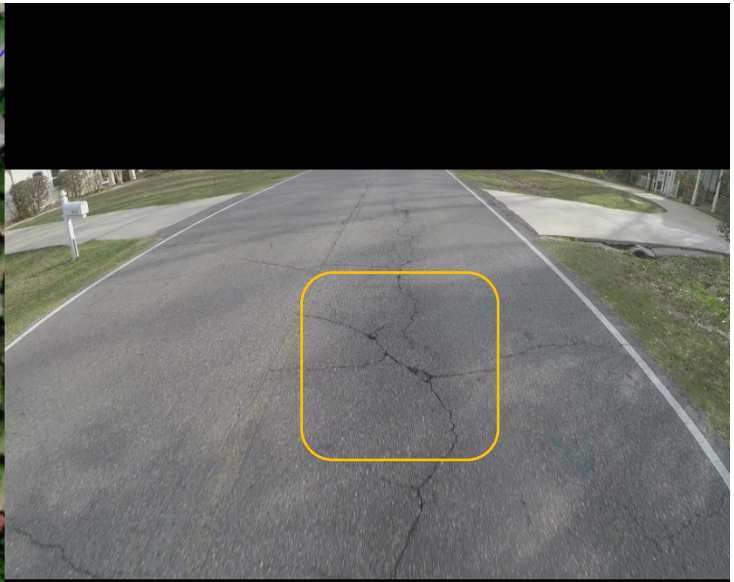
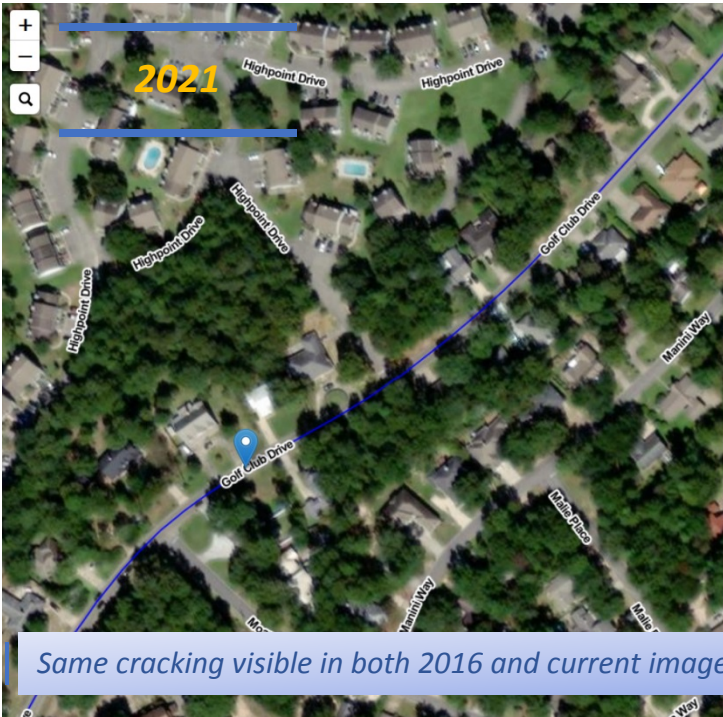
Golf Club Dr



Potholes and cracking apparent in 2016 and current imagery.



Golf Club Dr



Same cracking visible in both 2016 and current imagery.

