

Audit of the Department of Public Works Roads Division



Submitted by

Spire Hawaii LLP for the
Kaua'i County Council
County of Kaua'i
State of Hawai'i

Report No. 22-01

PREFACE

This performance audit of the Roads Division (“Roads Division,” “Roads,” or “Division”) of the Department of Public Works (“DPW”), County of Kaua‘i (“County”) was designed to examine the readiness and ability of the Division to conduct road work within its jurisdiction.

We would like to thank all who contributed data to this report, especially DPW Acting Chief Engineer Troy Tanigawa, former Acting Chief Engineer Chief Lyle Tabata, former Acting Deputy County Engineer Michael Tresler, Managing Director Michael Dahilig and past and present Division personnel.

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Attachment 1 – Auditee Response

EXECUTIVE SUMMARY

The Kaua'i County Council ("Council") issued a Memorandum of Concurrence, dated April 25, 2019, which called for a performance audit to be conducted of the Roads Division to determine whether it has the necessary plans, policies, and procedures in place to ensure that the revenues generated from the County's general excise tax ("GET") surcharge are spent effectively and efficiently.

The audit scope consisted of :

- A review of whether the Roads Division has the necessary and qualified staff, policies, and SOPs to perform the road maintenance projects funded by the GET.
- An examination of whether the Roads Division has the necessary and qualified staff, policies, and SOPs to conduct regularly scheduled storm drain and shoulder clearing maintenance, pothole repair, sealing and maintenance, and repair of safety devices, signs, and road markings.
- Follow up on the findings and recommendations of the prior Road Maintenance audit.

Our findings are summarized as follows.

Finding 1: The Roads Division does not have the necessary and qualified staff, policies, and SOPs to perform the GET-funded road maintenance projects within its scope of responsibility.

From interviews and reviews of documents and responses to questions, we found Roads did not have the necessary and qualified staff, policies, and SOPs to perform the GET-funded road maintenance projects because (1) it does not have qualified employees in the positions that lead and manage Roads; (2) there are no policies and SOPs for road maintenance or measurable outcomes and (3) funding from the GET is unpredictable, making planning difficult.

Lack of qualified employees: Roads has two primary responsibilities for road related GET projects: (1) to conduct engineering assessments of road conditions and (2) to provide oversight (construction management) of contractors performing road resurfacing projects. These responsibilities require engineering and project management backgrounds. Of the six employees tasked with these responsibilities, two had engineering backgrounds, two had project management, but no engineering backgrounds, one had no engineering or project management background. The remaining engineer position has been vacant since 2019. To make matters worse, as of February 2021, both of the employees with engineering background retired, and one of the employees with project management background resigned. Based on the information provided to us, this leaves Roads

responsibilities in the hands of two employees--one with project management background and another with no project management or engineering background. In interviews, we were told that in the past, Roads has been unable to attract and retain qualified engineers. Given this difficulty, DPW and Roads need to realistically consider how they can address their need for engineers. If the conditions for hiring persons with the required engineering background continue to be difficult, DPW and Roads might consider working with Human Resources to assess whether a reorganization involving other Divisions with engineering needs (such as the Engineering or Solid Waste Division) could achieve economies of scale or whether any changes to compensation could be made to attract and retain in-house engineers. In early 2022, DPW made changes to address its engineer shortage by transferring engineering duties and positions from Roads to Engineering. These changes are pending formal approval.

Lack of policies and SOPs: The only policy and SOP presented for our review was the Road Resurfacing Policy and Standard Operating Procedure, dated January 15, 2019. In general, this policy provides guidance on the protocols and procedures for the selection and the timing of County streets chosen for paving, reconstruction, and maintenance projects. Absent were policies or SOPs covering Roads' responsibilities for GET projects, such as contractor oversight or project tracking. Roads also lacks policies or SOPs covering maintenance and repair performed by its in-house crews. More importantly, as the responsibility for the GET road projects is shared with Engineering, there are no policies to minimize overlapping functions and excessive administrative layers and set lines of authority that minimize administrative costs.

Unpredictable funding: The need to adopt the GET was based on projections by the DPW fiscal personnel regarding the funding needed for road repair and maintenance. However, in the ultimate GET revenue allocation, a portion of the GET revenues was given to Transportation. Allocations to projects not relating to road issues are outside the Division's control and affect its ability to plan.

Recommendations:

1. If the conditions for hiring persons with the required engineering background to work for Roads continue to be difficult, DPW should consider giving a high priority to working with Human Resources to identify the changes it needs to make to fill its need for in-house engineers. Changes DPW has made to address staffing issues in 2022 appear to show that DPW has made progress in implementing this recommendation. Although Roads responsibilities remain intact, the contracting and administration of construction projects, including island-wide road resurfacing, is being accomplished by a project manager under DPW-Admin. The island-wide pavement preservation (crack and slurry surface seal) program is currently on hold to update specifications, as

engineering duties and positions were transferred from Roads to Engineering.

2. DPW (including Roads and other recipients of GET funding) should consider incorporating best practice policies and SOPs such as data driven project monitoring, cost-effective and efficient organizational structure, project delivery evaluation, evaluation of program performance and costs, and public access to project information and compliance processes.
3. DPW and other intended recipients of the County GET should be consulted during the GET allocation process so that the results of cuts to anticipated funding are known and accepted prior to the cuts being made.

Finding 2: The Roads Division does not have the necessary policies and SOPs to conduct regularly scheduled storm drain, shoulder clearing maintenance, pothole repair, sealing and maintenance, and repair of safety devices, signs, and road markings.

The only policy and SOP presented for our review was the Road Resurfacing Policy and Standard Operating Procedure, dated January 15, 2019. In general, this policy provides guidance on the protocols and procedures for the selection and the timing of County streets chosen for paving, reconstruction, and maintenance projects.

Absent were policies or SOPs covering its other duties, including contractor oversight or project tracking, maintenance and repair performed by its in-house crews, and complaint handling.

Roads also does not have a project tracking or performance monitoring system for in-house work that would enable a measurement of response time or other indicators of efficiency. Roads could consider systems to measure and report on the Division's performance. Performance measurements can be analyzed to spotlight the organization's priorities, help monitor progress toward success, help identify strengths and weaknesses, and support more fact-based decision-making. The Division could also consider conducting employee surveys to self-assess its performance and customer surveys to measure satisfaction with its activities through customer and employee surveys. Regular review of data ensures that Roads is optimally using its resources to accomplish its department's priorities.

Recommendations:

1. Roads, with the assistance of DPW and Engineering, should develop or improve its data gathering with the aim of using the data to analyze its efficiency and effectiveness and plan future projects.
2. Roads should complete its Policy and Standard Operating Procedures Manual and consider policies and practices from other jurisdictions for inclusion.
3. Roads should consider customer and employee surveys to identify any areas of improvement.

Finding 3: The Roads Division has implemented four of the seven recommendations from the prior audit. Two recommendations are partially implemented, and one recommendation was not implemented.

The scope of this audit included checking on the status of the recommendations in the prior Audit of County Capital Project Management (Road Maintenance Program, Fiscal Year 2006-07, Phase I) Report No. 12-02 (“2012 Audit”). That audit examined the road resurfacing project for the fiscal year 2006-07, Phase I, to obtain insight into the county's management of capital projects.

In the Auditee Response to the 2012 Audit, DPW agreed to all recommendations. As a result of interviews, document inspections, and responses to written questions, we categorized disposition of the recommendations against the following audit criteria:

- Implemented - Department(s) or function(s) provided documentation confirming the recommendation's implementation, and/or we located necessary documentation using county and other resources.
- Partially implemented - Department(s) or function(s) provided documentation confirming some, but not all, of the directives in the recommendation had been implemented.
- Not implemented - Department(s) or function(s) failed to provide supporting documentation of implementation or other evidence to confirm the recommendation was implemented.

Implemented

Recommendation regarding subfinding 1.1: The administration and the Council should provide sufficient resources to enable Roads to develop an asset management plan, to be used as a rational basis for (1) selecting roads for the annual road resurfacing program and (2) setting priorities for other highway projects.

Recommendation regarding subfinding 1.2: DPW and Roads should conduct an economic trade-off analysis to determine the estimated optimum amount to invest in roads to achieve the highest economic return. The administration, director of finance and the Council should base the funding for road maintenance projects on this analysis.

Recommendation regarding subfinding 1.4: Roads should consider allowing for reconstruction as part of the road maintenance solicitation even if exact locations cannot be specified. The contractor can be required to complete reconstruction at the prices in the bid, rather than as negotiated at a later date. Once the county's pavement management system is fully functioning, the areas requiring reconstruction can be better identified and included specifically in the plans for bidding purposes at the correct location with set unit pricing. Roads should consider basing its remedial road work on pavement conditions and selecting the appropriate material for the conditions based on a cost-benefit analysis.

Recommendation regarding subfinding 2.1: The administration and Council should ensure that the island wide road resurfacing projects are categorized as required by the county charter, and that capital budget funds are used for permanent improvements and not repair and maintenance.

Partially implemented

Recommendation regarding subfinding 1.3: The county administration and Council continue to allocate resources necessary for the Division to plan and execute timely annual road maintenance programs. The resources could include the funds needed to ensure an accurate pavement condition inventory, deploy an effective pavement management system, and provide training for Division employees. These measures will allow the Division to use the pavement management system effectively and efficiently in planning road maintenance projects.

Through document reviews and analyses and interviews, we determined that Roads has been provided additional funding, especially for additional outside contractor assistance to maintain an accurate pavement condition inventory and pavement management system, and for additional staff. Regardless of funding, however, staffing remains a problem. During interviews, the former Division chief and the former Civil Engineer VI appeared to have a good understanding of

the nature of the contracted work, but the retirement of these two key individuals highlights the need for trained replacements. Finally, additional personnel resources have been provided, but the former Division chief indicated that although he had been given two additional positions, he was having trouble filling them.

Recommendation regarding subfinding 1.5: The administration and the Council provide sufficient resources to enable Roads to complete its policy and standard operating procedures manual.

Although the Roads response indicates that Roads now has resources to develop a manual, the manual has not been completed.

Not implemented

Recommendation regarding subfinding 2.2: DPW and the Department of Finance (“DOF”) should amend their existing policies and procedures to include detailed policies on the administration and use of the highway fund to ensure compliance with state law restrictions on the use of fuel and vehicle weight taxes and public utility franchise fees. DPW and the DOF should develop a chart of accounts dedicated strictly to operations funded by the fuel and vehicle weight taxes and public utility franchise fees.

The DOF’s response indicates that that the County system is not capable of ensuring compliance with the various use restrictions that accompany the monies that comprise the highway fund. In the Auditee Response to the 2012 Audit, DPW stated that it concurred that DPW and DOF should amend its policies and procedures to ensure compliance with state laws relative to fuel and vehicle weight taxes. DPW stated that the solution would likely include (1) amending budget practices by ensuring that budgeted highway funds pay for eligible costs of the fund, (2) DPW creating a work order system within Roads to account for work provided to other departments and other funds, and (3) ensuring through the budget process that eligible highway fund costs funded within the general fund and other funds are properly budgeted within the highway fund. We believe that the current administrations at DPW and DOF should consider the solutions proposed by DPW to reduce County risk.

Recommendation:

1. Roads and the DPW should review the recommendations or portions of recommendations that have not been implemented with the administration and Council to prioritize and fund full implementation.

CHAPTER 1

Introduction

The Kaua‘i County Council (“Council”) issued a Memorandum of Concurrence, dated April 25, 2019, which called for a performance audit to be conducted of the the Roads Division to determine whether it has the necessary plans, policies, and procedures in place to ensure that the revenues generated from the County’s general excise tax (“GET”) surcharge are spent effectively and efficiently.

This performance audit examines the structure and management of the Division, primarily related to its ability to effectively and efficiently perform its duties. We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

This audit was conducted pursuant to the authority of the Council, as provided in the County Charter. For a complete definition of performance audits see Government Auditing Standards section 1.21.¹

Information deemed confidential under the Hawai‘i state open records law (Hawai‘i Revised Statutes (“HRS”) chapter 92F) was omitted from this report. The determination of whether information was confidential was based on Office of Information Practices (“OIP”) Guideline No. 3, effective September 7, 2011, and OIP memorandum dated May 1, 2002, “OIP Guidance Regarding Disclosure of Agency Records and Information to Auditors.” Under the guidance of these documents, the following were omitted as confidential: employee names, employee social security numbers, and actual base rates of pay and gross salaries for employees covered by or included in bargaining units as defined in the Hawai‘i collective bargaining law (HRS chapter 76).

¹ Government Auditing Standards, 2018 Revision.

Audit Scope and Objectives

The audit scope consisted of:

- A review of whether the Roads Division has the necessary and qualified staff, policies, and SOPs to perform the road maintenance projects funded by the GET.
- An examination of whether the Roads Division has the necessary and qualified staff, policies, and SOPs to conduct regularly scheduled storm drain and shoulder clearing maintenance, pothole repair, sealing and maintenance, and repair of safety devices, signs, and road markings.
- Follow up on the findings and recommendations of the prior Road Maintenance audit.

Audit Methodology

We developed an overall audit plan and risk-based strategy to approach and address the audit objectives, which included three distinct stages: planning, fieldwork, and reporting.

The planning stage involved obtaining an understanding of the Roads Division's staffing, workload, policies, and practices. This was done through interviews and reviewing documents and responses to written requests. We then identified areas of risk.

Based on this risk identification, we developed a methodology consisting of:

1. Requesting and reviewing Roads Division policies and SOPs for road maintenance, storm drain and shoulder clearing maintenance, pothole repair, sealing and maintenance, repair of safety devices, signs, and road markings.
2. Requesting and reviewing background and work histories of current Roads Division staff.
3. Requesting and reviewing organizational charts, job descriptions, and vacancy and other staffing-related data for the Roads Division.
4. Conducting interviews of a sample of present and former employees of the Roads Division and other County agencies to obtain data on items 1-3, review relevant complaints and how they were handled (if any). The review will not be a re-investigation of specific complaints, but a review of whether the complaint was handled appropriately, given County personnel policies and practices for handling similar complaints.
5. Following up on the findings and recommendations of the prior Road Maintenance audit.

6. Benchmarking policies, procedures, and staffing against similar jurisdictions and national standards.
7. Providing findings and recommendations as appropriate.

We identified interviewees to interview about policies and practices to obtain an understanding of the Roads Division and to identify areas of risk and key controls to test. Once we established our understanding, we analyzed the records of the Division and identified employees who were knowledgeable about work assignments and internal controls. In some instances, we referenced activity outside of this time period for comparison purposes.

Of the five components of internal control, control environment, control activities and monitoring were significant to the audit objectives. The overall tone at the top regarding (1) appropriate use of GET surcharge revenues for specified projects as defined Section 5-3.1 of the Kaua‘i County Code and (2) hiring of appropriately qualified personnel to carry out the road maintenance/repair work were significant to the audit objectives. Monitoring of the GET surcharge expenditures was also significant to the audit objectives to evaluate whether the process is achieving the desired results. We reviewed the Road Resurfacing Policy and Standard Operating Procedure, dated January 15, 2019, which provided guidance on the protocols and procedures for the selection and the timing of County streets chosen for paving, reconstruction, and maintenance projects. We also reviewed the resumes and work histories of key Roads personnel.

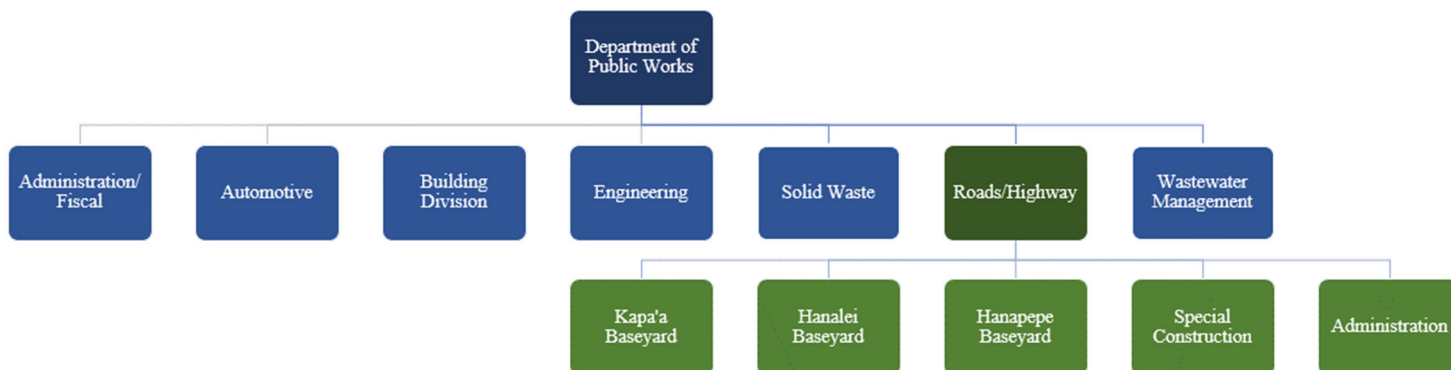
The audit period spanned from 2019 through 2020 (“Period Under Scope”). Fieldwork was significantly delayed by restrictions as a result of COVID-19.

Division Background

Article XIII of the Kaua‘i County Charter provides for a Department of Public Works. The Roads Division performs the following Charter-required services:

- Maintain, repair, and upkeep road-related county facilities and improvements (County Charter section 13.03B)
- Install, maintain, and repair all traffic signs, traffic control facilities and devices (County Charter section 13.03E)

Another division in DPW, the Engineering Division (“Engineering”) shares the responsibility for providing road and traffic control-related duties in the Charter. The placement of the Roads and Engineering Divisions in DPW is shown in the organizational chart below.

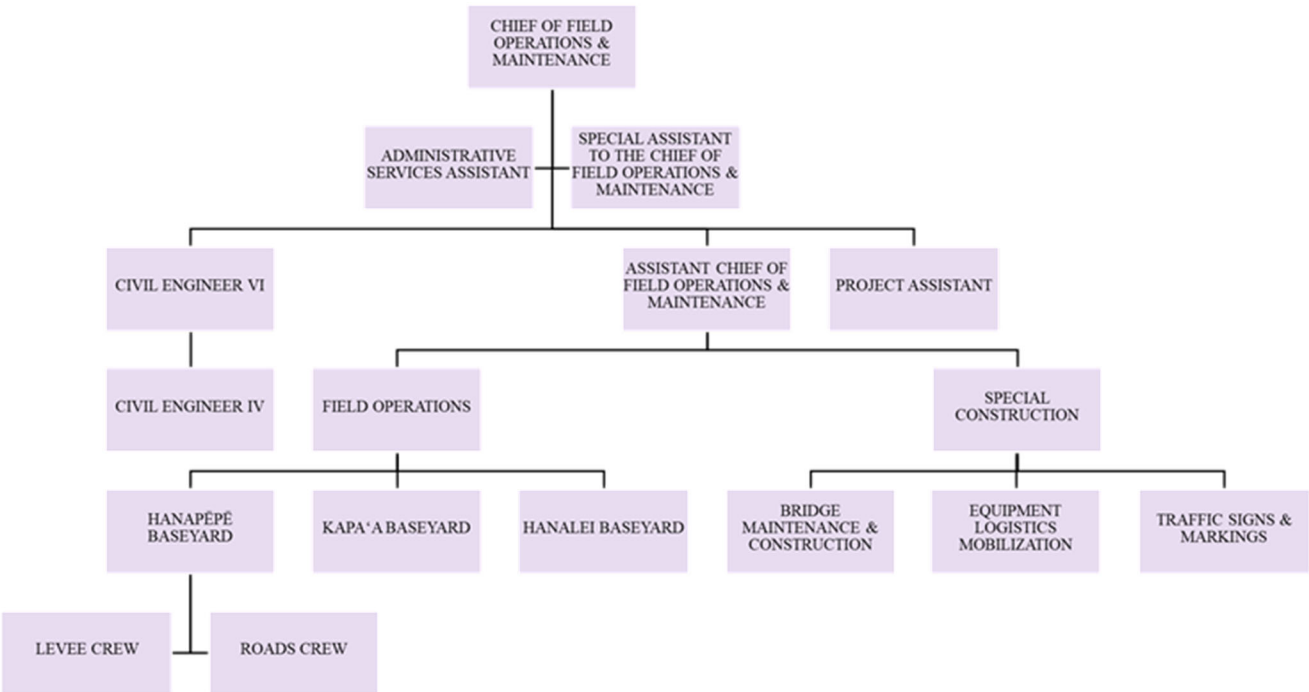


The allocation of responsibility between Roads and Engineering for road and traffic control is described in the various DPW Annual Reports. The chart below shows the duties of Roads and Engineering as described in the Fiscal Year 2020 Annual Report.

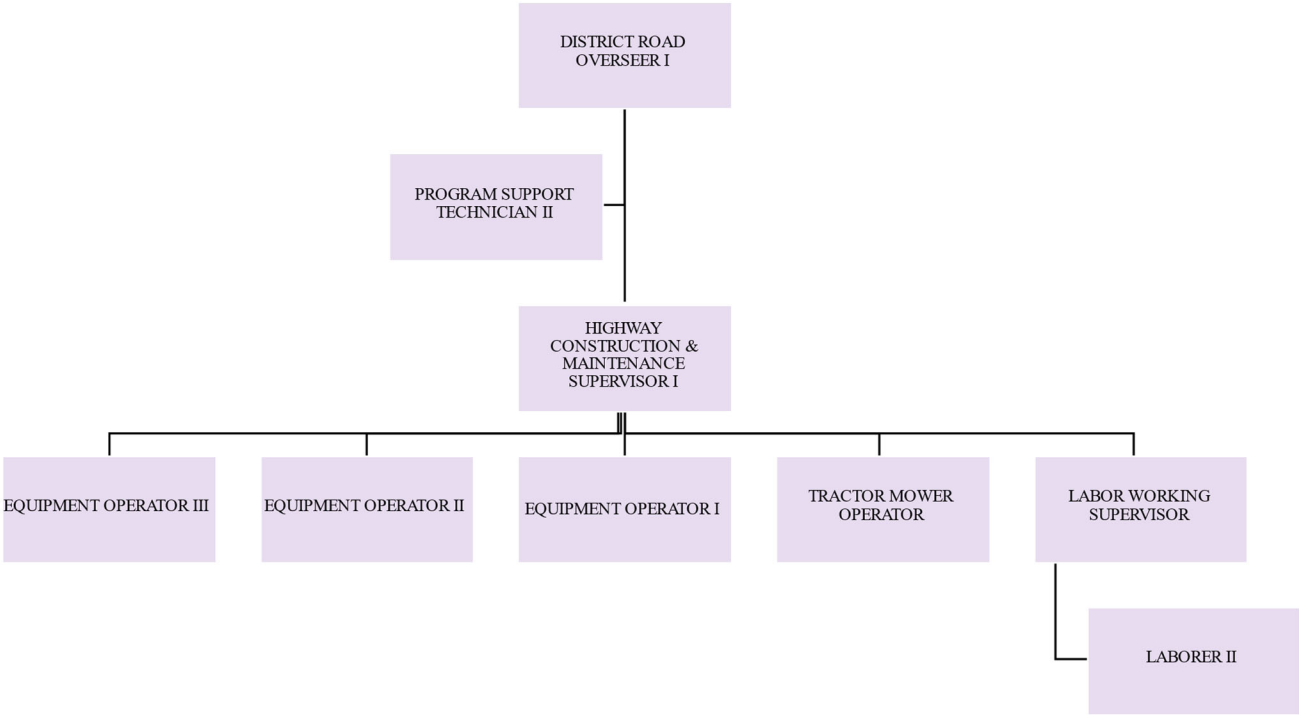
	Roads Responsibilities	Engineering Responsibilities
Road pavement	Engineering assessment of pavement condition, construction management of County-funded road resurfacing projects, minor maintenance, and repair	Development of engineering solutions for rehabilitation and repair projects, including project design and construction management for Federal, State and County funded projects
Shoulders	Maintenance and repair	Rehabilitation and repair, including project design and construction management
Bridges	Maintenance and repair	Rehabilitation and repair, including project design and construction management
Sidewalks, driveways, curbs	Maintenance and repair	Project design and construction engineering
Ditches, culverts, levees, gutters	Maintenance and repair	Rehabilitation and repair of drainage and flood control facilities, developing engineering solutions for drainage or flooding
Traffic and safety devices	Installation and maintenance	Responding to/evaluating requests for changes to streetlights and traffic control devices; preparing Council resolutions if necessary
Guardrails, pavement markings, traffic signs	Installation and maintenance	Responding to/evaluating requests for changes to traffic signs, pavement marking, parking restrictions and bus stops

The organizational charts produced by the Division for the Period Under Test are shown below. The Roads Division has 79 authorized positions, 20 supervisory and 59 non-supervisory. As of December 2020, it had eight vacancies. Employees holding the key positions of Chief of Field Operations and Maintenance and Civil Engineer VI retired as of December 31, 2020.

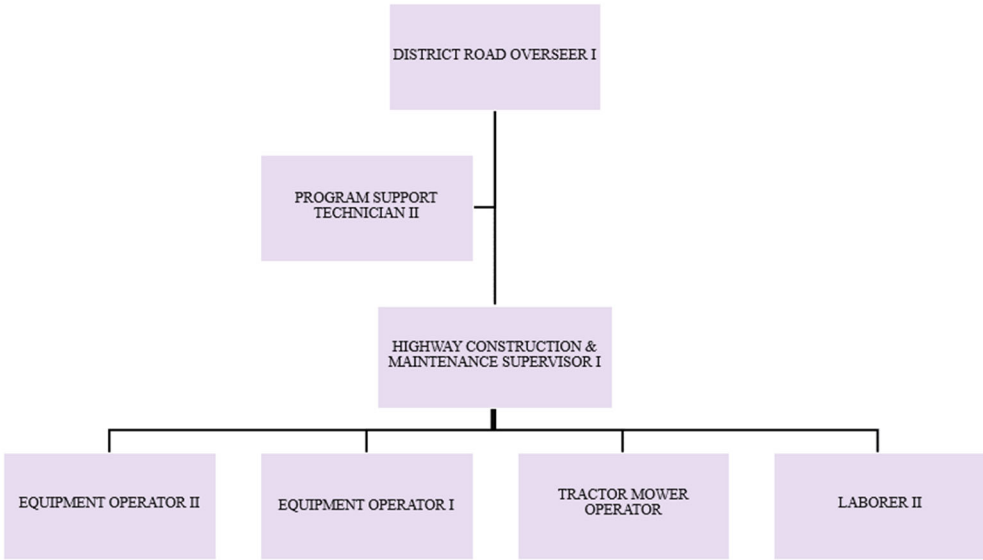
Roads:



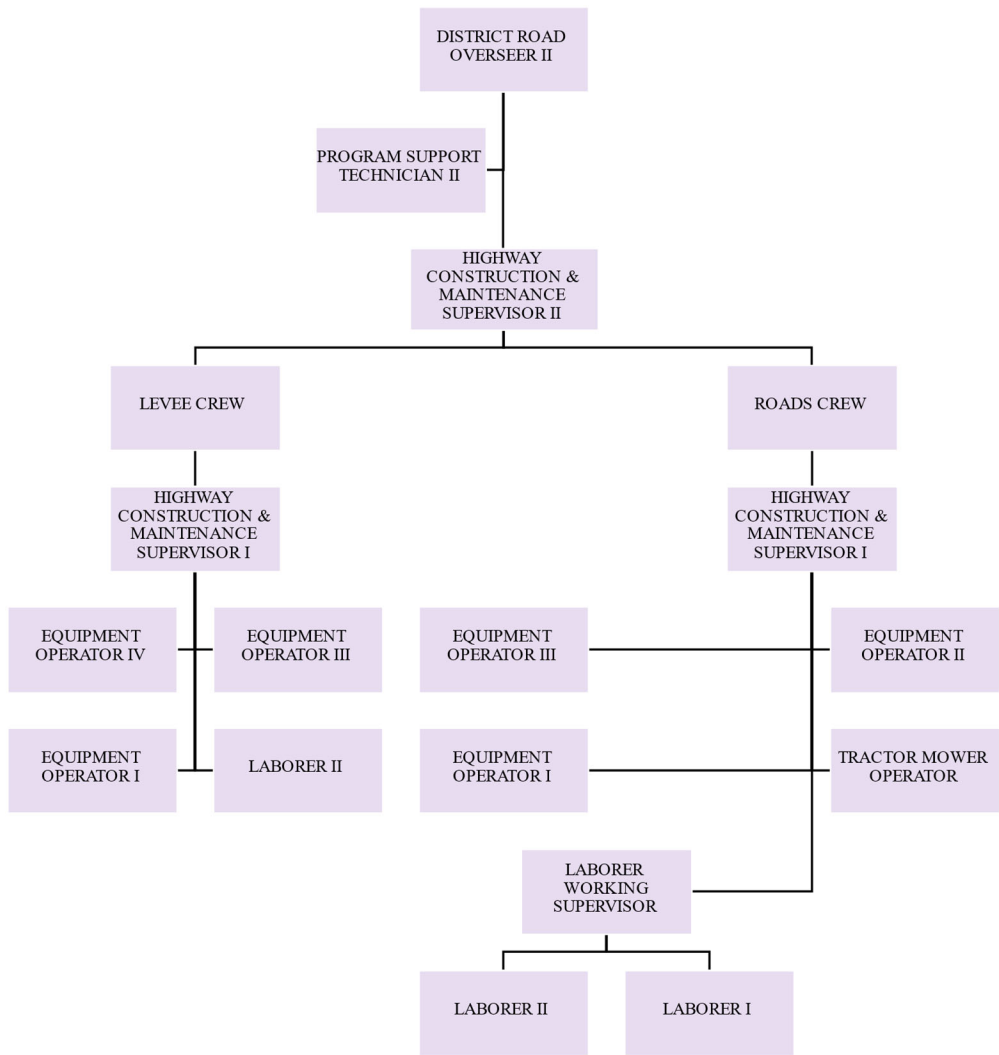
Kapa‘a Baseyard:



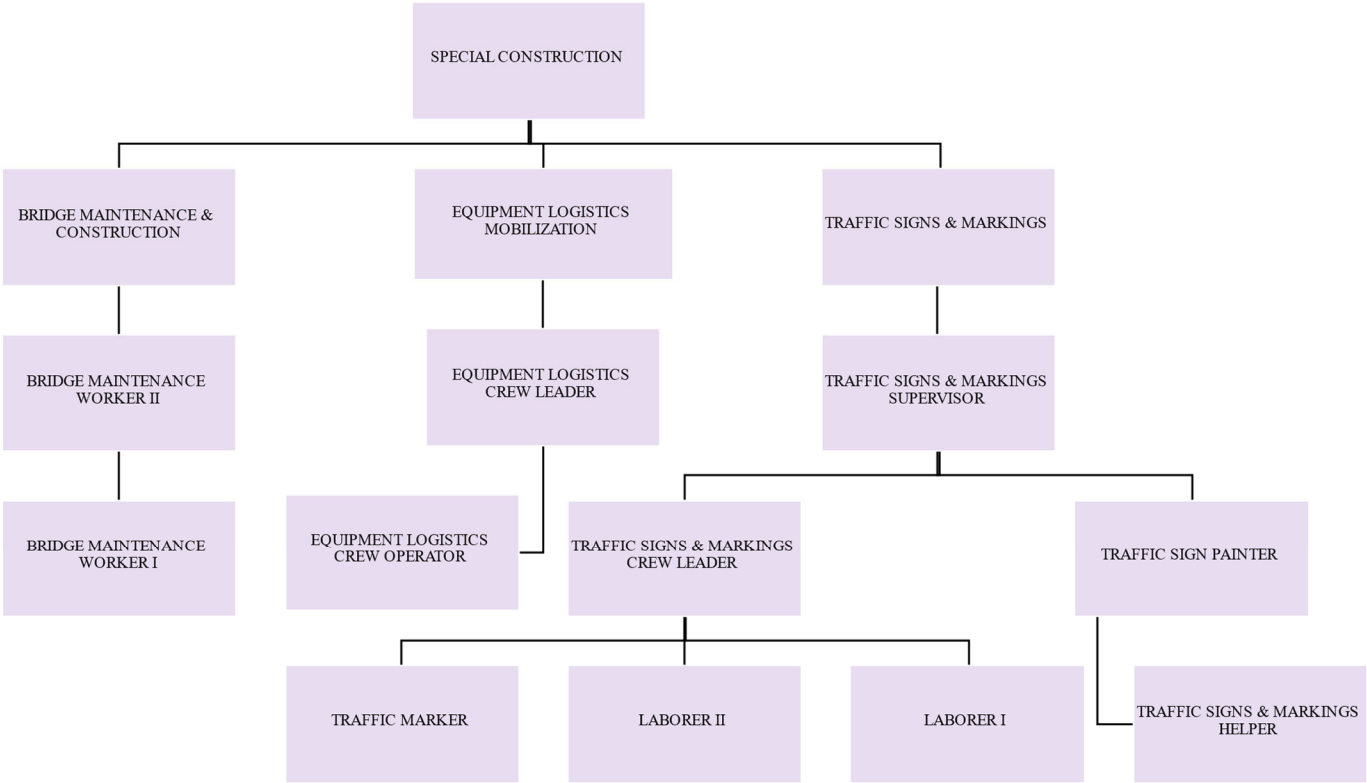
Hanalei Baseyard:



Hanapēpē Baseyard:



Special Construction:



GET Background

HRS section 237-8.6 authorizes the counties to impose a surcharge of up to 0.5 percent on activities subject to the GET, except for activities taxed at the wholesale (0.5 percent) and insurance commission (0.15 percent) rates.² Kaua‘i County elected a GET surcharge of 0.5 percent from January 1, 2019, to December 31, 2030.³ The County’s maximum pass-through GET rate is 4.712 percent.⁴

Section 5-3.1 of the Kaua‘i County Code specifies that the proceeds from the surcharge are to be used for funding the operational and capital costs of public transportation.

The DPW planned for the GET to be used to fund projects as shown in the table below, which was presented to the County Council on November 15, 2017.⁵

	Estimates of County Funds Needed	
Island Wide Resurfacing (IWR): Reconstruction, Overlay, & Slurry Seal	\$	117,445,000
Other Road Projects*	\$	125,661,000
Federal Aid Bridges*	\$	12,205,000
Non-Federal Aid Bridges	\$	20,350,000
Transportation Improvements/Expansion	\$	71,200,000
Total County Cost Identified	\$	346,861,000

*Assumes federal funding of \$352.2M (80/20 match for majority of eligible projects)

² <https://tax.hawaii.gov/geninfo/get/>

³ The surcharge was approved by the Council on December 11, 2017, as Ordinance No. 1021. The surcharge and conditions for the surcharge are codified in sections 5-3.1 to 5-3.4 of the Kaua‘i County Code.

⁴ <https://tax.hawaii.gov/geninfo/countysurcharge/>

⁵ DPW Presentation to County Council, November 15, 2017.

DPW projected that it would need \$117,445,000 in Island Wide Resurfacing (“IWR”) for the following projects on November 15, 2017:⁶

Treatment Method	Miles	Cost (Millions)
Reconstruction (4 in)	34	\$ 62.60
Overlay (1.5 in)	39	\$ 17.81
Slurry Seal	199	\$ 37.03
Total	272	\$ 117.45
Base Yard District	Miles	Cost (Millions)
Hanalei	39	\$ 23.68
Hanapepe	100	\$ 41.28
Kapa'a	133	\$ 52.49
Total	272	\$ 117.45

The following table summarizes the estimated cost per mile by treatment method based on the November 2017 estimate provided by DPW:

Treatment Method	Miles	Cost (Millions)	Cost per Mile
Reconstruction	34	\$ 62.60	\$ 1,841,176
Overlay	39	17.81	456,667
Slurry Seal	199	37.03	186,080
Total	272	\$ 117.44	\$ 431,765

The following table summarizes the estimated cost per mile and total positions for each of the baseyard districts based on the November 2017 estimate provided by DPW:

Baseyard District	Miles	Cost (Millions)	Cost per Mile	Total Positions
Hanalei	39	\$ 23.68	\$607,179	12
Hanapēpē	100	41.28	412,800	26
Kapa'a	133	52.49	394,662	20
Total	272	\$ 117.45	\$431,801	58

⁶ DPW Presentation to County Council, November 15, 2017.

CHAPTER 2

Summary of Findings

Finding 1. The Roads Division does not have the necessary and qualified staff, policies, and SOPs to perform the GET-funded road maintenance projects within its scope of responsibility.

Finding 2. The Roads Division does not have the necessary and qualified staff, policies, and SOPs to conduct regularly scheduled storm drain and shoulder clearing maintenance, pothole repair, sealing and maintenance, and repair of safety devices, signs, and road markings.

Finding 3. The Roads Division has implemented four of the seven recommendations from the prior audit. Two recommendations are partially implemented, and one recommendation was not implemented.

Finding 1: The Roads Division does not have the necessary and qualified staff, policies, and SOPs to perform the GET-funded road maintenance projects within its scope of responsibility.

The problem and why it is relevant

The condition of County roads is a matter of great interest to the Council and the general public, so a motivating factor in instituting the GET was DPW's representation to the Council that the GET revenues would enable necessary repairs to County roads to be made in ten years. The Council initiated this audit to determine whether road repair projects funded by GET were being spent effectively and efficiently. However, we discovered during fieldwork that the Roads Division has limited responsibility for GET projects. Through interviews, document reviews, and responses to questions, we ascertained that Roads' responsibility for road-related GET projects is limited to (1) oversight over outside contractors conducting IWR projects and (2) assessing road conditions to inform prioritization of GET-funded road repairs. Roads did not use GET for in-house road treatment of potholes and for other functions such as tree-trimming and vegetation maintenance.

As shown in the chart in the preceding section entitled "Division Background," the Engineering Division is responsible for assessing the need for road and traffic control changes or improvements, planning and designing the changes or improvements and overseeing projects not included in the island-wide road resurfacing program.

Therefore, a complete assessment of whether the GET proceeds are being spent effectively and efficiently would require audits of all entities spending GET funds, including Engineering and the Transportation Agency ("Transportation").

However, the scope of this audit is limited to Roads, so the Council could consider other audits of the spending entities not covered in this audit.

The condition and reasons for the condition

From interviews and reviews of documents and responses to questions, we find that during the Period Under Test, Roads did not have the necessary and qualified staff, policies, and SOPs to perform the road maintenance projects assigned to it and funded by the GET.

The primary reasons for the deficiencies are (1) lack of qualified employees in the positions that lead and manage Roads, (2) lack of policies and SOPs for road maintenance and lack of measurable outcomes, and (3) unpredictable funding.

Lack of qualified staff

Roads has two primary responsibilities for road related GET projects: (1) to conduct **engineering** assessments of road conditions and (2) to provide **oversight** (construction management) of contractors performing road resurfacing projects. During the Period Under Test, there were six employees tasked with these responsibilities. Their titles were:

1. Chief of Field Operations and Maintenance
2. Assistant Chief of Field Operations and Maintenance
3. Special Assistant to the Chief of Field Operations and Maintenance
4. Civil Engineer VI
5. Civil Engineer IV
6. Project Assistant

Examination of their resumes shows that only two of the six had engineering backgrounds.⁷ Of the six employees tasked with these responsibilities, two had engineering backgrounds, two had project management, but no engineering backgrounds, and one had no engineering or project management background. The remaining engineer position has been vacant since 2019. To make matters worse, as of February 2021, both of the employees with engineering background retired, and one of the employees with project management background resigned. Based on the information provided to us, this leaves Roads responsibilities in the hands of two employees--one with project management background and another with no project management or engineering background. The prospects for hiring their replacements are not good. The former Roads Division head and former Acting County Engineer both described the difficulties of recruiting engineers

⁷ Even with the two employees with Engineering backgrounds, Roads supplemented its engineering capacity by hiring an outside contractor to conduct pavement condition assessments.

because there are few applicants and new engineers often use the County job to gain experience, then leave for the private sector where the pay is better.

Additionally, permanent leadership of one of the three Roads baseyards has been lacking, as the Hanapēpē District Road Overseer position has been vacant since June 2020.

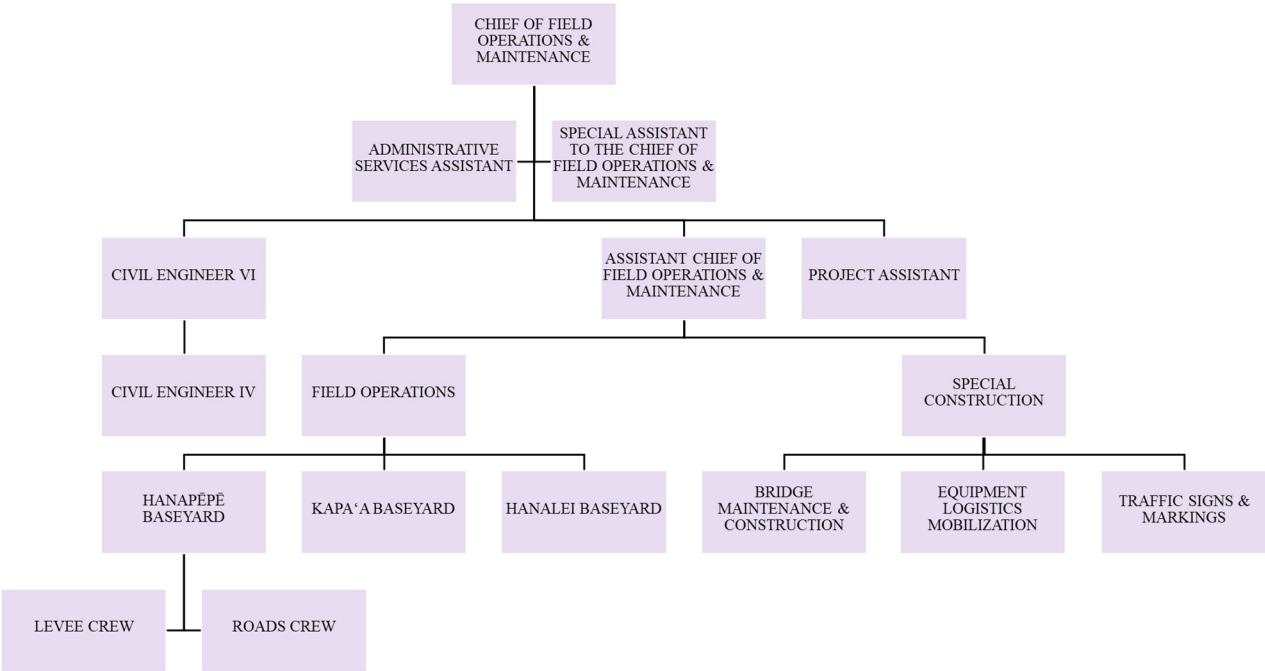
If the prospects for hiring persons with the required engineering background to work for Roads is not good, DPW might consider reevaluating its personnel needs and division structure to see how it can ensure that adequate in-house engineering expertise when required. We are informed that other divisions, such as the Solid Waste Division, may have similar problems with finding engineers.⁸

After the end of the Period Under Test, DPW made changes to address the engineer shortage. Roads responsibilities remain intact except for contracting and administration of construction projects, including island-wide road resurfacing and island-wide pavement preservation (crack and slurry surface seal). The contracting and administration of construction projects including island-wide road resurfacing is being accomplished by a project manager under DPW-Administration. The island-wide pavement preservation (crack and slurry surface seal) program is currently on hold to update specifications.

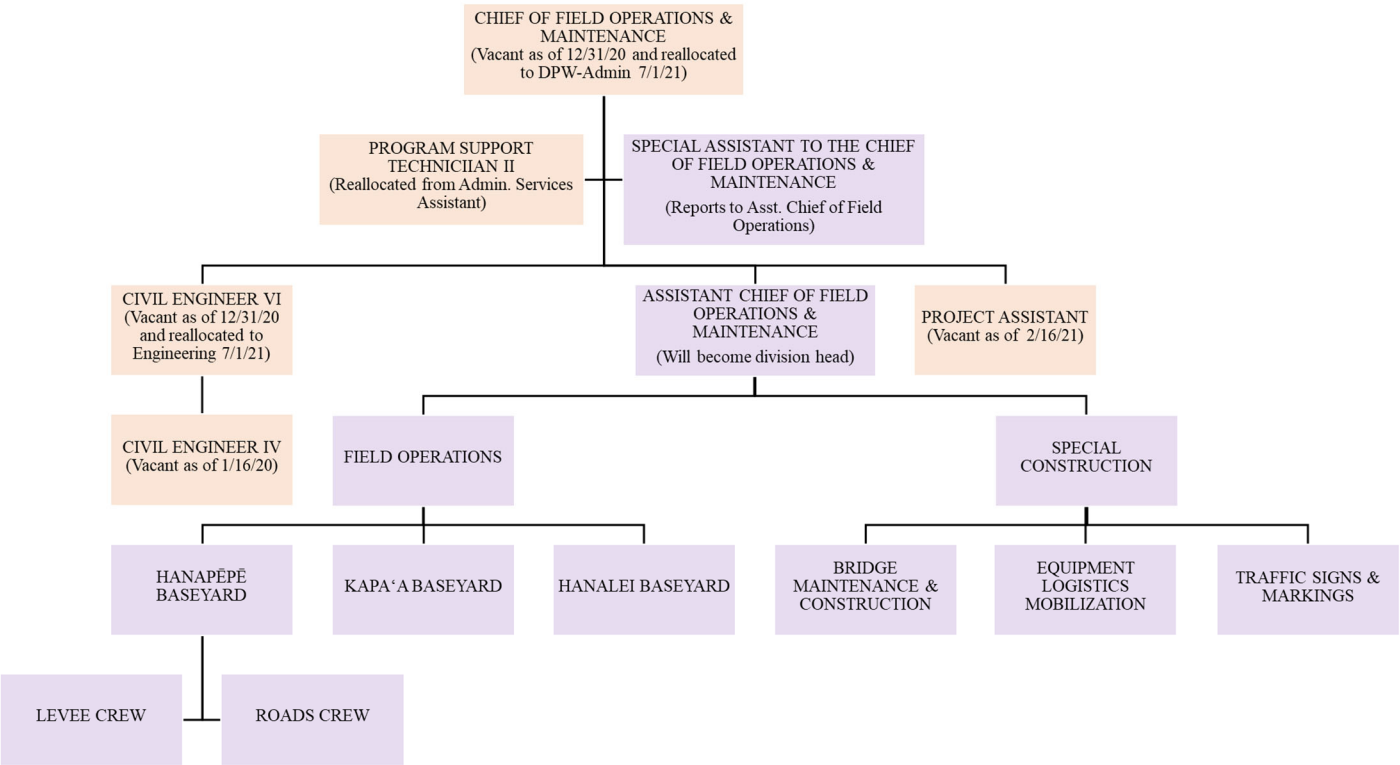
The changes are as shown in the diagrams below that compare the Roads organization at the end of the Period Under Test and early 2022. While the new organizational structure is not fully approved, it appears to show that DPW has reevaluated its personnel needs and division structure since the end of the Period Under Test and is utilizing the technical resources in Engineering.

⁸ In our audit of the Solid Waste Division, we noted that its engineer lives in Washington state, and its acting division head is not an engineer.

Old:



New:



Lack of policies, SOPs, and measurable outcomes

The only policy and SOP presented for our review was the Road Resurfacing Policy and Standard Operating Procedure, dated January 15, 2019. In general, this policy provides guidance on the protocols and procedures for the selection and the timing of County streets chosen for paving, reconstruction, and maintenance projects.

Absent were policies or SOPs covering Roads' responsibilities for GET projects, such as contractor oversight or project tracking. Roads also lacks policies or SOPs covering maintenance and repair performed by its in-house crews.

More importantly, as the responsibility for the GET road projects is shared with Engineering, there are no policies to minimize overlapping functions and excessive administrative layers and set lines of authority that minimize administrative costs.

Comparison of Roads policies to best practices

As previously stated, the sole policy provided for Roads was the Road Resurfacing Policy and Standard Operating Procedure, dated January 15, 2019. When compared to other jurisdictions, Roads is lacking in policies that might help improve its performance. In an audit of a Florida county's road and transportation program,⁹ the following were noted as policies and SOPs that make such programs more effective and efficient.

- 1. Data-driven project monitoring:** Road and transportation programs were evaluated using performance and cost information that was adequate to monitor project performance and cost. Additionally, program administrators took reasonable and timely actions to address any deficiencies in program performance and cost identified in audits. DPW might consider assisting Roads (and Engineering, if necessary) to develop data-driven project monitoring to effectively monitor project performance, regardless of whether the projects are done in-house or by outside contractors.
- 2. Cost-effective and efficient organizational structure:** The county's organizational structures had clearly defined units, minimize overlapping functions and excessive administrative layers, and have lines of authority that minimize administrative costs. Additionally, the audit found that current staffing levels were based on a thorough budgeting and staff planning process, but that further efforts could be taken to measure workload and productivity to validate staffing levels against volume of need. Developing policies and SOPs that clearly designate the respective

⁹ MGT Consulting Group, "Performance Audit of Collier County," Final Report dated September 14, 2018.

duties of Roads and Engineering would facilitate project completion and minimize confusion about areas of responsibility and eliminate any duplicative administrative costs.

3. **Project delivery evaluation:** The county projects were found to have been executed efficiently with a mix of in-house and external help. However, the audit suggested a formal process for evaluating the effectiveness of alternative methods of providing services including in-house, contracted, and privatized services. For the GET projects, Roads (and Engineering, if necessary) might benefit if DPW developed a process that evaluates whether the existing method of project delivery (in-house, contracted out) are efficient, or whether alternative methods of service delivery might be better.
4. **Evaluation of program performance and costs:** The county had program goals and objectives that were clearly stated and consistent with the county's strategic plan. Management used adequate measures to evaluate program performance and cost. Additionally, the internal controls evaluated by the audit team were adequate to provide reasonable assurance that program goals and objectives are met. Roads might benefit if it documented its goals and objectives and used them for project evaluation and internal control purposes.
5. **Public access to project information:** The county had processes in place to ensure the accuracy and completeness of relevant program performance and cost information provided to the public. Additionally, the public had access to information that was useful, timely, readily available, and easy to locate. Improved public access to project information might allow Roads to provide project information to the public about the varied projects conducted by Roads.
6. **Compliance processes:** The county processes in-place to assess the compliance of transportation and roads programs with applicable federal, state, and local laws, rules, and regulations; contracts; grant agreements; and local policies. In addition, the programs took reasonable and timely actions to assess if planned uses of surtax funding complied with applicable state laws, rules, and regulations. The risk of noncompliance by the County might be mitigated or avoided if DPW and the County developed policies and SOPs for Roads and other GET project implementers to follow to ensure compliance.

Unpredictable funding

As previously stated, DPW recognized that additional funding was necessary to make substantial improvement to County road conditions and initiated an effort to amend County ordinances to establish a GET surcharge earmarked for road repair. The effort included making presentations to the County Council about how increased funding could be used to improve road conditions. In a presentation to

the County Council in January 2015, Roads estimated that it would require a budget of approximately \$6,000,000 to \$10,000,000 annually to maintain an active 10-year maintenance plan, with the total estimated cost for all County roads repair and resurfacing of \$120,000,000. In a presentation to the County Council on November 15, 2017, DPW projected that GET revenues of \$117,445,000 would enable it to cover necessary IWR on County roads in ten years, as shown below.¹⁰

Funding Year	Estimated Treatment Cost (\$ in Mil.)
1	\$ 11.59
2	12.60
3	11.32
4	11.99
5	11.13
6	10.43
7	9.94
8	10.31
9	17.24
10	10.90
Total	<u>\$ 117.45</u>

The following table shows the budget for IWR and expenditures from FY 2016 through FY 2021 with FY 2021 expenditures as of January 2021.¹¹

Fiscal Year	Resurfacing Budget (\$ in Mil.)	Expenditures (\$ in Mil.)
2016	\$ 1.22	\$ 2.26
2017	2.79	2.41
2018	4.00	5.55
2019	7.60	7.72
2020	17.43	17.47
2021	17.69	10.63

¹⁰ Source is November 15, 2017, Presentation to the Council. Per DPW, this was a “[S]napshot at a point in time” cost of the treatment costs for IWR, which did not account for inflation or other increases in costs over the 10-year period. DPW also estimated \$125,661,000 in funds for other roads projects, \$12,205,000 for federal aid bridges, \$20,350,000 for non-federal aid bridges and \$71,200,000 for transportation improvements and expansion.

¹¹ Sources are DPW Operating Budgets, November 15, 2017, Presentation to the County and January 12, 2021, Presentation to the County. The 2021 Expenditure amounts are estimates as of January 12, 2021.

These presentations were developed by the DPW fiscal personnel. However, in the ultimate GET revenue allocation, a portion of the GET revenues was given to Transportation. Allocations to non-Roads projects are outside the Division's control and affect its ability to plan.

Despite its issues, Roads appears to have increased its roadwork. According to a past audit of road maintenance,¹² between 2000-2005, the average miles resurfaced by Roads was 12.8 miles. This can be compared to the number of lane miles contracted for and completed between Fiscal Years 2017 and 2020 shown in the following table.¹³

<u>Fiscal Year</u>	<u>Lane Miles Contracted</u>	<u>Lane Miles Completed</u>	<u>Cost per Completed Lane Mile</u>
2017	26.00	26.00	\$ 92,577
2018	41.43	34.34	161,561
2019	45.29	45.29	170,545
2020	52.54	9.83	N/A

We were informed that the difference in number of lane miles contracted and completed in 2020 was primarily due to delays associated with the COVID pandemic. However, Roads should consider evaluating and addressing the reasons behind the escalating completion costs per lane mile, to minimize avoidable costs.

Recommendations:

1. If the conditions for hiring persons with the required engineering background to work for Roads continue to be difficult, DPW should consider giving a high priority to working with Human Resources to identify the changes it needs to make to fill its need for in-house engineers. Changes DPW has made to address staffing issues after the Period Under Test appear to show that DPW has already started to implement this recommendation, as Roads is utilizing the resources in Engineering.
2. DPW (including Roads and other recipients of GET funding) should consider incorporating best practice policies and SOPs such as data driven project monitoring, cost-effective and efficient organizational structure,

¹² Office of the Kaua'i County Auditor, "Audit of County Capital Project Management (Road Maintenance Program, Fiscal Year 2006-2007, Phase I)" Report No. 12-02, page 16.

¹³ The 2000-2005 figures are in miles, while the 2017-2020 figures are in lane miles, which is a mile of roadway in a single driving lane. The total lane mileage of a highway is found by multiplying the centerline mileage of a road by the number of lanes it has. Lane mileage is the total amount of mileage covered by a road's lanes.

project delivery evaluation, evaluation of program performance and costs, and public access to project information and compliance processes.

3. DPW and other intended GET recipients should be consulted during the GET allocation process so that the results of cuts to anticipated funding are known and accepted prior to the cuts being made.

Finding 2: The Roads Division does not have the necessary policies and SOPs to conduct regularly scheduled storm drain, shoulder clearing maintenance, pothole repair, sealing and maintenance, and repair of safety devices, signs, and road markings.

The problem and why it is relevant

Roads is responsible for providing a wide variety of public services in addition to the GET projects within its jurisdiction. Roads also deploys equipment and personnel to assist other County departments or divisions and to respond to disasters, including wildfires and flood events. Roads' ability or inability to provide these services has the potential to affect the general public, businesses, and government agencies.

The condition and reasons for the condition

According to the County's Fiscal Year 2020 Annual Report, Roads provides public services through its Administrative, Technical, Field Operations and Projects units. Field Operations consists of the following subunits: Roads Maintenance, consisting of District Base Yards and Roads Construction, consisting of Equipment Logistics Mobilization, Bridge & Road Construction, and Traffic Signs & Pavement Markings. Roads manages approximately 310.1 miles of roads: 307.9 paved and 2.2 unpaved.

In addition to pothole filling on less-traveled roads and scheduled maintenance of roadways, rights-of-way, ditches, and culverts, it responds to complaints. The complaints and responses to the complaints are documented in logs. We examined logs for approximately 1,924 complaints for the period from February 2018 to September 2020, and found that they fell into the following categories:

Category	Number of Complaints	Percent of Total
Pothole Filling	426	22.1%
Overgrown Vegetation / Tree Maintenance	315	16.4%
Other ¹⁴	303	15.7%
Road Safety / Signage	236	12.3%
Road Inquiry	155	8.1%
Flooding Hazard	152	7.9%
Dead Animals	120	6.2%
Clearing Road Obstructions	88	4.6%
Refuse Pickup	63	3.3%
Damage Claim	30	1.6%
Shoulder Maintenance	20	1.0%
View Obstruction	16	0.8%
Total	1,924	100.0%

We were not provided performance data for Roads and the only policy produced by Roads was the Road Resurfacing Policy and Standard Operating Procedure, dated January 15, 2019. Roads does not have a project tracking or performance monitoring system for in-house work that would enable a measurement of response time or other indicators of efficiency. The data from project tracking and performance monitoring could also be used to analyze whether Roads staffing levels are effective and appropriate.

¹⁴ Complaints in the “Other” category were wide-ranging, from complaints about traffic, questions about easements, permits, cars on the roadside, and other complaints that did not have enough information documented for us to categorize.

Comparison of Roads policies to best practices

Roads provided only one policy and could improve by adopting other policies that would improve its efficiency and effectiveness through more robust tracking, analyses, and planning. As Roads states it is working on a Policy and Standard Operating Procedures Manual, the following policies and practices from other jurisdictions could be considered for inclusion.

The National Cooperative Highway Research Program commissioned a study¹⁵ of ten high-performing state transportation departments to find common themes, or key success factors, which contributed to overall organizational improvement and effectiveness. The study found that each of the states had very clear answers to the questions:

1. How do we know if we are successful?
2. How do others judge our performance?

To answer these questions, these states have invested in systems to measure and report on their performance. The measurement and reporting systems spotlight the organization's priorities, help monitor progress toward success, help identify strengths and weaknesses, and support more fact-based decision-making. The states studied conduct some sort of self-assessment and satisfaction with their activities through customer and employee surveys. The states also used engage in regular review of data to ensure that every program and every unit within the state transportation function is optimally using its resources to accomplish the department's priorities.

Another jurisdiction¹⁶ has compared the budget, equipment and personnel assigned by district against the road miles and complaints they are responsible for, to monitor whether resources are distributed based on need.

In Michigan, Cass County was honored by the County Road Association of Michigan for its best practice Management Operations Review (MOR) Procedure.¹⁷ The components of the MOR were:

1. Customer service request is received in person or via telephone, e-mail, website, or mail at the Cass County Road Commission headquarters.
2. Request is logged into a software program by type of request, and name of township from where request issues are located.

¹⁵ A Transportation Executive's Guide to Organizational Improvement NCHRP Project 20-24 (42), "Guidelines for State DOT Quality Management Systems" (2006).

¹⁶ Report of the Joint Legislative Audit and Review Commission on Staffing and Manpower Planning in the Department of Highways and Transportation to the Governor and the General Assembly of Virginia. (1983).

¹⁷ http://www.micountyroads.org/PDF/Best_Practices_2003to2011.pdf

3. The documented request is assigned to a designated supervisor or management staff.
4. If necessary a site visit is made, and the initiator of the service request is contacted.
5. Supervisor schedules the work to be done and identifies the equipment needed as well as any specialty personnel.
6. The document showing that work has been completed is returned to the staff for marking as complete.
7. Citizen who made the request is notified of the resolution, if needed.
8. Records are updated to show the amount of time it required from date received to complete the request (0-7 days, 8-14 days, 15-21 days, 22-30 days, or 31+ days).
9. For purposes of analysis, year-to-year charts are kept to identify service requests by month.

The Maui auditor also recommended a similar system of data collection and analysis as a way to measure effectiveness and efficiency of the Maui County Engineering and Highways Division.¹⁸ The recommendations are stated below and could be considered by DPW and Roads.

1. Track the status of all road-related complaints from the date received through final resolution.
2. Provide for a mechanism for the Department to communicate with the complainant.
3. Provide data to enable analysis of road-related complaints, including but not limited to the quantities, types, location, and resolution status.
4. Assist in the development of the annual, midrange, and long-range plans of future projects.
5. Inform the public of the Department's progress, efforts, and responsiveness to road-related complaints.

Recommendations:

1. Roads, with the assistance of DPW and Engineering, should develop or improve its data gathering with the aim of using the data to analyze its efficiency and effectiveness and plan future projects.

¹⁸ Audit of the County's Road Resurfacing, Improvement, and Maintenance Practices
Report No. 15-01, October 2015.

2. Roads should complete its Policy and Standard Operating Procedures Manual and consider policies and practices from other jurisdictions for inclusion.
3. Roads should consider customer and employee surveys to identify any areas of improvement.

Finding 3: The Roads Division has implemented four of the seven recommendations from the prior audit. Two recommendations are partially implemented, and one recommendation was not implemented.

The scope of this audit included checking on the status of the recommendations in the prior Audit of County Capital Project Management (Road Maintenance Program, Fiscal Year 2006-07, Phase I) Report No. 12-02 (“2012 Audit”). That audit examined the road resurfacing project for the fiscal year 2006-07, Phase I, to obtain insight into the county's management of capital projects.

We interviewed the past and present Acting County Engineers, Deputy County Engineer, chief of Roads and administrative staff, as the recommendations concerned Roads. We also reviewed operation and personnel data about the Division. Based on these activities, disposition of the recommendations was measured against the following audit criteria:

- Implemented - Department(s) or function(s) provided documentation confirming the recommendation's implementation, and/or we located necessary documentation using county and other resources.
- Partially implemented - Department(s) or function(s) provided documentation confirming some, but not all, of the directives in the recommendation had been implemented.
- Not implemented - Department(s) or function(s) failed to provide supporting documentation of implementation or other evidence to confirm the recommendation was implemented.

The audit recommendations, background regarding the recommendations, past and current responses from Roads, and the auditor's dispositions are stated below.

Recommendation regarding subfinding 1.1: The administration and the Council should provide sufficient resources to enable Roads to develop an asset management plan, to be used as a rational basis for (1) selecting roads for the annual road resurfacing program and (2) setting priorities for other highway projects.

Background: This recommendation was based on a concern that the road selection process was not based on industry best practices, which require an analytical assessment of road conditions and public needs. Because the

County did not have sufficient data to analytically prioritize roads based on need and condition, road selection was subjective and nontransparent.

At the time the recommendation was made, DPW concurred with the recommendation and stated Roads would use MicroPAVER, a pavement management system developed by the U.S. Army Corps of Engineers, Construction Engineering Research Laboratory. Roads currently reports that MicroPAVER was procured but proved unsatisfactory because pavement inventory condition data was poor or unavailable and roads personnel were not trained in using the program. To get better data, Roads contracted iWorQ, which does similar work on Maui, and is now able to get reports sufficient for determining pavement condition of the different road segments in order to select roads and plan road pavement maintenance projects.

Auditor disposition: **Implemented.** Based on interviews and the response from Roads, this recommendation was implemented by the procurement and funding of the iWorQ contract. Since the DPW description of Roads duties versus Engineering duties in the Fiscal Year 2020 Annual Report limits Roads' involvement in asset management to engineering assessments of pavement conditions, this disposition does not address whether DPW Engineering has implemented the recommendation as to the road-related projects under its jurisdiction.

Recommendation regarding subfinding 1.2: DPW and Roads should conduct an economic trade-off analysis to determine the estimated optimum amount to invest in roads to achieve the highest economic return. The administration, director of finance and the Council should base the funding for road maintenance projects on this analysis.

Background: This recommendation was based on the finding that the funding provided for the road maintenance program was not based on needs and priorities, but on an external funding allocation.

DPW concurred with the recommendation in 2012 and stated that the Island Wide Resurfacing plan for FY 12 would include plans for road reconstruction in addition to road resurfacing where the condition of the road is such that resurfacing only would provide a poor return on investment. When asked for the current state, DPW states that DPW and the administration continue to conduct economic trade-off analyses based on Roads Division's recommended list of annual road resurfacing program.

Auditor disposition: Based on the Roads response and interviews, this recommendation is deemed **implemented**.

Recommendation regarding subfinding 1.3: The county administration and Council continue to allocate resources necessary for the Division to plan and execute timely annual road maintenance programs. The resources could include the funds needed to ensure an accurate pavement condition inventory, deploy an effective pavement management system, and provide training for Division employees. These measures will allow the Division to use the pavement management system effectively and efficiently in planning road maintenance projects.

Background: This recommendation addressed the finding that Roads did not have enough resources to plan, procure or begin the project under audit on time, and that untimely execution increased road deterioration and may have increase project costs.

DPW concurred with this recommendation and stated at the time that (1) funding was provided which has allowed Roads Division to procure MicroPAVER, (2) funding for FY13 has been provided to procure a Maintenance Management Information System (MMIS), (3) funding was provided to conduct an inspection and inventory of County roads to provide accurate information, and (4) Roads has also hired additional staff to implement its pavement management program. Roads responds that the recommendation continues to be implemented, since funding is provided for the IWRR and the IWCFS contracts, and for additional staff to implement the pavement maintenance program.

Auditor disposition: This recommendation is deemed **partially implemented**. Through document reviews and analyses and interviews, we determined that Roads has been provided additional funding, especially for additional outside contractor assistance to maintain an accurate pavement condition inventory and pavement management system, and for additional staff. Regardless of funding, however, staffing remains a problem. During interviews, the former Division chief and the former Civil Engineer VI appeared to have a good understanding of the nature of the contracted work, but the retirement of these two key individuals highlights the need for trained replacements. Finally, additional personnel resources have been provided, but the former Division chief indicated that although he had been given two additional positions, he was having trouble filling them.

Recommendation regarding subfinding 1.4: Roads should consider allowing for reconstruction as part of the road maintenance solicitation even if exact locations cannot be specified. The contractor can be required to complete reconstruction at the prices in the bid, rather than as negotiated at a later date. Once the county's pavement management system is fully functioning, the areas requiring reconstruction can be better identified and included specifically in the plans for bidding purposes at the correct location with set unit pricing. Roads should

consider basing its remedial road work on pavement conditions and selecting the appropriate material for the conditions based on a cost-benefit analysis.

Background: This recommendation was based on the finding that the methodology for the project under audit was inadequate since it followed a formerly used resurfacing-only approach that did not consider road conditions or alternative methods or materials.

DPW concurred with the recommendation at the time, stating that the in-progress Island Wide Road Resurfacing FY 2011-2012 included areas identified for reconstruction work in addition to resurfacing. Roads currently reports that this practice continues, and that the IWRR solicitations (FY2017 to FY2020) have included reconstruction.

Auditor disposition: **Implemented** as to Roads. In addition to the Roads response stating that reconstruction is now included as recommended, responses during the interviews indicate that Roads has made substantial progress in collecting and using pavement condition data to inform its remedial road work. However, since Engineering was not included in the scope of this audit, we did not make any finding as to the disposition of this recommendation as it relates to Engineering's projects involving roads.

Recommendation regarding subfinding 1.5: The administration and the Council provide sufficient resources to enable Roads to complete its policy and standard operating procedures manual.

Background: This recommendation was based on the finding that Roads had inadequate standard operating policies and procedures for project-related tasks. At the time the recommendation was made, DPW concurred with the recommendation. Currently, Roads responds that it is completing a Policy and Standard Operating Procedures Manual.

Auditor disposition: **Partially implemented.** Although the Roads response indicates that Roads now has resources to develop a manual, the manual has not been completed.

Recommendation regarding subfinding 2.1: The administration and county council should ensure that the island wide road resurfacing projects are categorized as required by the county charter, and that capital budget funds are used for permanent improvements and not repair and maintenance.

Background: This recommendation addressed the finding that the County's road resurfacing projects were incorrectly categorized as capital ("CIP") projects.

DPW concurred with the recommendation at the time. DPW stated that the long-standing decision to fund the road resurfacing program under the CIP Program was set forth by the county council and administrations of decades ago, to provide Roads ample time and flexibility to obtain requisite county approvals and bids, and to contract for the work. As to the current situation, Roads states that resurfacing projects are not categorized as capital projects. The DOF adds that the County now has additional layers of internal review, since it employs a CIP Manager that reviews and advises on CIP projects, separately from the operating budget. DOF states that the Budget Administrator prepares both the operating budget and CIP budget ordinances after thorough review by the budget team and identifies and reviews projects considered for R&M, deferred maintenance, and CIP.

Auditor disposition: **Implemented.**

Recommendation regarding subfinding 2.2: DPW and DOF should amend their existing policies and procedures to include detailed policies on the administration and use of the highway fund to ensure compliance with state law restrictions on the use of fuel and vehicle weight taxes and public utility franchise fees. DPW and the finance department should develop a chart of accounts dedicated strictly to operations funded by the fuel and vehicle weight taxes and public utility franchise fees.

Background: This recommendation addresses the finding that funds from different sources were commingled, and the County was not organized in a way that ensured that fund use was managed to comply with funding restrictions.

At the time of the recommendation, DPW responded that it concurred that DPW and DOF should amend its policies and procedures to ensure compliance with state laws relative to fuel and vehicle weight taxes. DPW stated that the solution would likely include (1) amending budget practices by ensuring that budgeted highway funds pay for eligible costs of the fund, (2) DPW creating a work order system within Roads to account for work provided to other departments and other funds, and (3) ensuring through the budget process that eligible highway fund costs funded within the general fund and other funds are properly budgeted within the highway fund.

When asked about implementation of this recommendation for the current audit, DOF responded that “[t]he sources of funding are primarily fuel taxes, vehicle weight taxes, and utility franchise fees (and now bus fares). While there may be restrictions on use, the restrictions overlap heavily. We use the highway funds for the following which are included in all 3 restrictions: Construction, maintenance, improvement, and repair of public roads in the County of Kauai, including installation, maintenance and

repair of streetlights/power. Really the only other thing that the highway fund is used for is ‘mass transit’ which we are restricted to use fuel taxes, vehicle weight taxes and bus fares. We started using highway fund for Transportation in FY14. We can confidently say that our mass transit expenditures are very well below the sum of the three of these revenue sources. The average spend for mass transit annually since FY14 is \$3.1M and the average annual revenue received from eligible sources is \$12.0M.”

Auditor disposition: **Not implemented.** The DOF’s response indicates that the County still does not have the capability to establish its compliance with the various use restrictions that accompany the monies that comprise the highway fund. The DOF’s response indicates that it incorrectly assumes that (1) as long as the restrictions on the major sources of funding are observed, the restrictions imposed on the minor sources of funding can be disregarded, (2) that the restrictions on the three major sources of funding are the same, and (3) that ineligible costs do not need to be disallowed. As explained in detail in the 2012 audit, each funding source has discrete restrictions. If the County chooses to commingle monies from different funding sources into a single highway fund, it is still required to observe all applicable funding restrictions, regardless of dollar amount.

We urge the DOF to consider adopting the remedial measures proposed by the DPW in the Auditee Response to the 2012 audit to ensure compliance with restrictions. These measures include requiring reimbursement from departments and other work units for uses unrelated to highways and roads. Examples from the 2012 audit are the use of facilities, personnel, and equipment by the solid waste division, parks department, police department, IT division, and the anti-drug agency. The 2012 audit also noted that the highway fund also pays for the entire cost of fuel dispensed through the Gas Boy system, even if the fuel is used for various purposes unrelated to highways, such as for vehicles used by economic development, county attorney, county council, civil defense, the office of the prosecutor, and the parks, planning, and finance departments. The 2012 audit concluded that requiring Roads to bear the cost of non-highway activities will interfere with Roads’ sustainability plans and would not be consistent with legal requirements.

Recommendation:

1. Roads and the DPW should review the recommendations or portions of recommendations that have not been implemented with the administration and Council to prioritize and fund full implementation.

AUDITEE RESPONSE

A draft of the audit report was provided to the auditee for its response. The Acting County Engineer, on behalf of the DPW, expressed general agreement with the audit recommendations and attached descriptions of the corrective actions to be implemented for the three audit findings. The auditee response is attached to this report as Attachment 1. The DPW's auditee response, summarized below, is a positive and constructive approach to the audit findings.

Finding 1: This finding addressed the lack of necessary resources for the Roads Division. The recommendations and responses are as follows:

Recommendation 1:

Summary of Recommendation	Response
DPW should consider giving a high priority to working with Human Resources to identify the changes it needs to make to fill its need for in-house engineers.	DPW will utilize project management staff to administer the GET-funded programs. They will administer contracts for construction, management, and inspection for the current island wide road resurfacing program ("IWR") contract and for developing construction plans and specifications for the next IWR contract. DPW will also update procedures for roadway data collection to include Roads' baseyard staff input.

Recommendation 2:

Summary of Recommendation	Response
DPW and other recipients of GET funding should consider incorporating best practices and SOPs such as data-driven project monitoring, cost-effective organizational structure, evaluation or project delivery, performance and costs, and public access to project information and compliance.	DPW will work to identify best practices in updating policies and SOPs. DPW has also secured a dedicated staff person to work with the County's Information Technology Division to develop an app that tracks and displays information about the IWR, including a database and link to GIS mapping functions to allow for greater transparency about roadways paved, being worked on, and scheduled for work.

Recommendation 3:

Summary of Recommendation	Response
DPW and other intended GET recipients should be consulted during the GET allocation process so that cuts are known and accepted before they are made.	DPW will work with the Finance Department and County budget team to develop an annual budget process policy that includes appropriate consultation steps with DPW stakeholders.

DPW states that these corrective actions will be taken by June 30, 2023.

Finding 2: This finding addressed the lack of policies and SOPs for the Roads Division. The recommendations and responses are as follows:

Recommendation 1:

Summary of Recommendation	Response
Roads, with the assistance of DPW and Engineering, should develop or improve its data gathering.	DPW will work with IT to develop an alternative to the iWorks roadway management program, which has limitations and is not cost-effective.

Recommendation 2:

Summary of Recommendation	Response
Roads should complete its Policy and Standard Operating Procedures Manual ("Manual") and consider including policies and practices from other jurisdictions.	Priority will be placed on completion of the Manual and consider including policies and practices from other jurisdictions.

Recommendation 3:

Summary of Recommendation	Response
Roads should consider customer and employee surveys to identify any areas of improvement.	The DPW will consider such surveys.

DPW states that these corrective actions will be taken by February 28, 2023.

Finding 3: This finding was that the Roads Division has implemented four of the seven recommendations from the prior audit and recommends that Roads and the DPW review the outstanding recommendations (or portions thereof) with the Administration and Council to prioritize and fund full implementation. DPW states that it will implement the recommendation by April 30, 2023.

No significant amendments to the audit report were required because of the auditee response, but we made technical, non-substantive changes for accuracy, clarity, and style.

DEPARTMENT OF PUBLIC WORKS

TROY K. TANIGAWA, P.E., ACTING COUNTY ENGINEER

BOYD GAYAGAS, DEPUTY COUNTY ENGINEER



DEREK S.K. KAWAKAMI, MAYOR
MICHAEL A. DAHLIG, MANAGING DIRECTOR

July 8, 2022

Mr. Tyler Kimura
Spire Hawai'i LLP
700 Bishop Street, Suite 2001
Honolulu HI 96813

SUBJECT: RESPONSE TO DRAFT AUDIT REPORT, DPW ROADS DIVISION

Dear Mr. Kimura:

On behalf of the Department of Public Works, I am in general agreement with the audit recommendations and have attached copies of the corrective actions to be implemented for each of the three audit findings.

Please contact me at (808) 241-4993 or at ttanigawa@kauai.gov if you have any questions.

Sincerely,

Troy K. Tanigawa
Acting County Engineer

cc: HR Director
Managing Director

Auditor's Findings

22-01 Finding 1: The Roads Division does not have the necessary and qualified staff, policies, and SOPs to perform the GET-funded road maintenance projects within its scope of responsibility

Auditor's

Recommendations:

1. If the conditions for hiring persons with the required engineering background to work for Roads continue to be difficult, DPW should consider giving a high priority to working with Human Resources to identify the changes it needs to make to fill its need for in-house engineers. Changes DPW has made to address staffing issues after the Period Under Test appear to show that DPW has already started to implement this recommendation, as Roads is utilizing the resources in Engineering.
2. DPW (including Roads and other recipients of GET funding) should consider incorporating best practice policies and SOPs such as data driven project monitoring, cost-effective and efficient organizational structure, project delivery evaluation, evaluation of program performance and costs, public access to project information and compliance processes.
3. DPW and other intended GET recipients should be consulted during the GET allocation process so that the results of cuts to anticipated funding are known and accepted prior to the cuts being made.

Corrective

Action:

1. As a result of the shortage of available and qualified County engineering staff, the DPW has implemented a program utilizing Project Management staff to administer the GET-funded Islandwide Road Resurfacing program. Program administration responsibilities include:
 - a. Administration of the current GET-funded construction contract for islandwide County road resurfacing, and
 - b. Administration of an engineering services contract providing construction management and inspection services over construction work under the current islandwide County road resurfacing contract. County PM staff also participates in construction monitoring tasks including quality assurance inspections, etc.
 - c. Administration of an engineering services contract to develop construction plans and specifications for procurement of the next GET-funded islandwide County Road Resurfacing construction contract.
 - d. Roadway data collection to include updating procedures for prioritizing Roads to be included in the resurfacing/reconstruction list. One notable shift of information considered is the collection of input from Roads Division Baseyard personnel regarding roadway sections where higher rates of manhours are devoted towards pavement maintenance.
2. The DPW has secured one dedicated staff person to work with Dept of Finance Information Technology staff on development of an electronic software application (App) that tracks and

displays information pertaining to the Islandwide Resurfacing Program. The App includes a database and link to GIS mapping functions that will allow for a greater degree for public transparency on roadway resurfacing progress including roadway sections already paved, roadways currently being worked on and other contracted roads to be scheduled for work. Additionally, DPW will work to identify best practice concepts to update policies and SOPs such as data driven project monitoring, cost-effective and efficient organizational structure, project delivery evaluation, evaluation of program performance and costs

3. DPW will work with the Finance Department and County Budget team to develop an annual Budget Process Policy that includes appropriate consultation steps with Department stakeholders involving the allocation annual GET funding.

End Date:

Implement Corrective Actions by June 30, 2023

Responding

Person(s): Troy Tanigawa, Acting County Engineer

Auditor's Findings

22-01 Finding 2: The Roads Division does not have the necessary policies and SOPs to conduct regularly scheduled storm drain, shoulder clearing maintenance, pothole repair, sealing and maintenance, and repair of safety devices, signs and road markings.

Auditor's Recommendations:

1. Roads, with the assistance of DPW and Engineering, should develop or improve its data gathering with the aim of using the data to analyze its efficiency and effectiveness and plan future projects.
2. Roads should complete its Policy and Standard Operating Procedures Manual and consider policies and practices from other jurisdictions for inclusion.
3. Roads should consider customer and employee surveys to identify any areas of improvement.

Corrective Action:

1. In late 2020, it had become evident that the iWorks roadway management program had limitations and was becoming increasingly non cost-effective. The DPW will continue work with County Information Technology Division to develop a replacement roadway management App and corresponding systems for data gathering, database storage of the roadway conditions information used to determine those roads to be added onto the Islandwide County Roadway Resurfacing list. Updates to protocols for evaluation of roadway maintenance projects for efficiency and effectiveness are under development.
2. Priority will be placed on completing the Roads Division's Policy and Standard Operating Procedures Manual and the process will consider policies and practices from other jurisdictions for inclusion.
3. The DPW will consider customer and employee surveys to identify any areas of improvement.

End Date:

Implement Corrective Actions by February 28, 2023

Responding

Person(s): Troy Tanigawa, Acting County Engineer

Auditor's Findings

22-01 Finding 3: The Roads Division has implemented four of the seven recommendations from the prior audit. Two recommendations are partially implemented, and one recommendation was not implemented.

Auditor's Recommendations:

1. Roads and the DPW should review the recommendations or portions of recommendations that have not been implemented with the Administration and Council to prioritize and fund full implementation.

Corrective Action:

1. DPW will review the recommendations or portions of recommendations related to this specific finding that have not been implemented with the Administration and Council to prioritize and fund full implementation.

End Date:

Implement Corrective Actions by April 30, 2023

Responding

Person(s): Troy Tanigawa, Acting County Engineer