



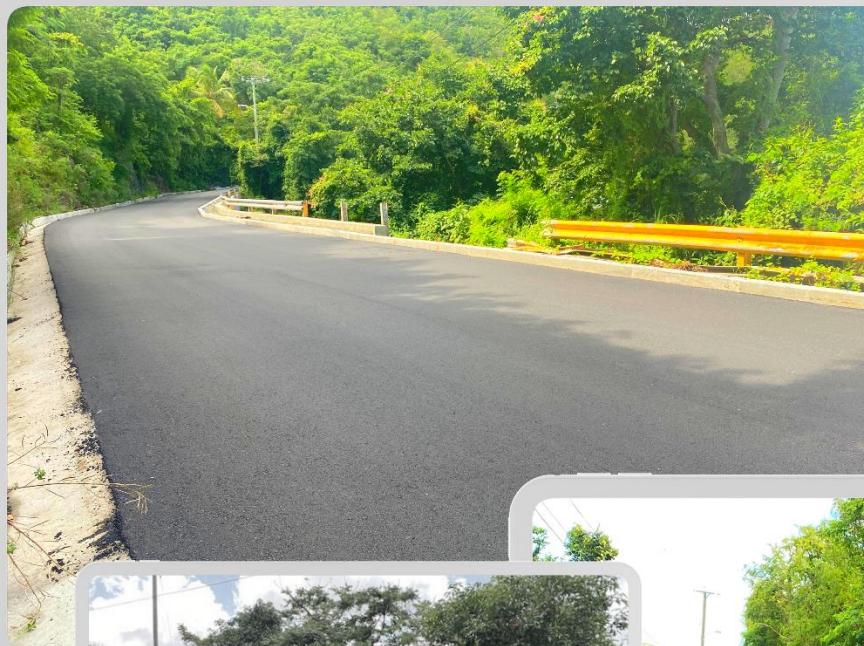
GOVERNMENT OF THE
VIRGIN ISLANDS
Premier's Office



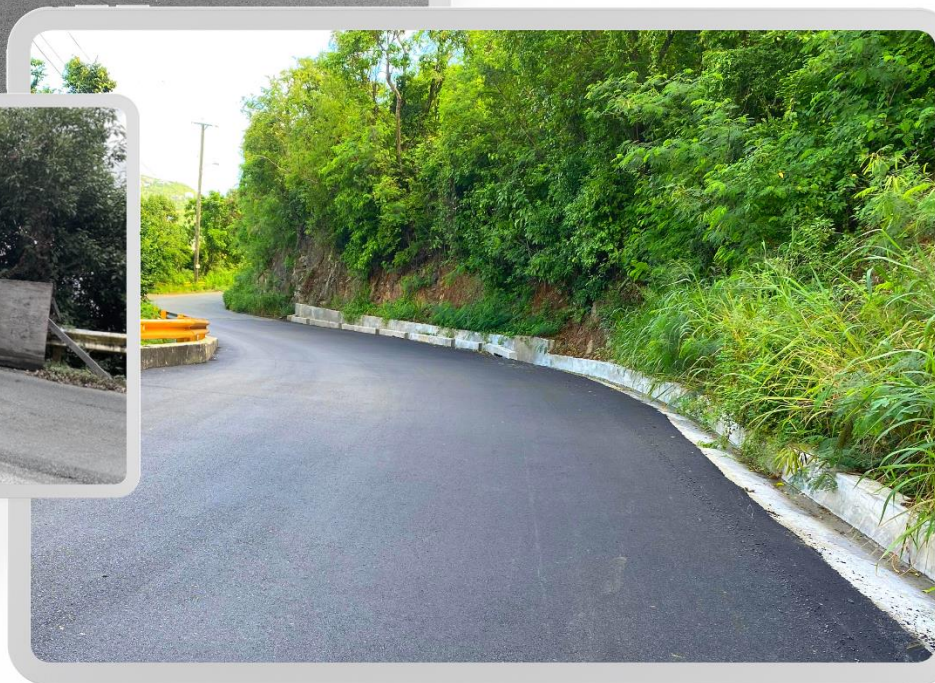
VIRGIN ISLANDS
**RECOVERY AND
DEVELOPMENT AGENCY**

RIDGE ROAD

ROAD REHABILITATION AND SLOPE STABILISATION



LITTLE DIX HILL



**HOPE TO
SABBATH HILL**

EVALUATING VALUE FOR MONEY

PROJECT NUMBER: RDS.02.27.180.01 AND RDS.02.27.180.06

Ridge Road - Hope to Sabbath and Little Dix Hill Activities

Roads, Slopes and Coastal Defenses

Value for Money (VfM) Assessment Report

1) INTRODUCTION

One of the core roles of the Recovery and Development Agency (RDA) is ensuring Value for Money (VfM) in the delivery of programmes and projects aimed toward recovery and development of the Virgin Islands. Section 5(2)(c) and (d) of the Virgin Islands Recovery and Development Regulations outline the value for money mandate of the RDA, specifying that:

The Agency shall be responsible for implementing the Government’s Recovery and Development Plan in partnership with the Ministries and in so doing shall:

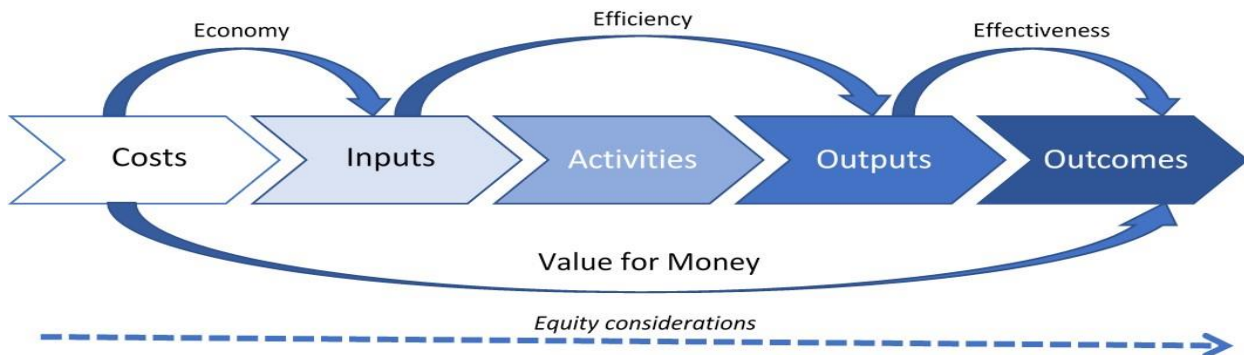
- (c) deliver the intended benefits; [and]
- (d) ensure that each project represents value for money.

To this end, the RDA has developed a Value for Money Framework and Methodology, which uses specific criteria to assess projects’ Value for Money and assigns an overall VfM score for each project.

The VfM score is made up of eight indicators (listed in Table 1) within the four outlined areas of Value for Money, namely Economy, Efficiency, Effectiveness and Equity.

Table 1: Value for Money Areas within the 4Es

VALUE FOR MONEY AREA	
Economy	Economy
Efficiency	Output Cost, Output Time, Schedule
Effectiveness	Output Effectiveness, Outcome Effectiveness, Quality
Equity	Equity



This VfM Assessment examines two (2) activities on the Ridge Road implemented under the Caribbean Development Bank (CDB) Rehabilitation and Reconstruction Loan (RRL), namely the Hope to Sabbath Hill and Little Dix Hill activities, both of which involved slope stabilisation and road rehabilitation works.

Given that these two activities were carried out in close proximity to each other, both in terms of time as well as distance, a decision has been made to amalgamate these two activities for the purposes of evaluating value for money in this Report. Both these activities form part of the broader Roads, Slopes and Coastal Defenses project funded by the CDB RRL.

The Hope to Sabbath Hill activity began on the 1 April 2019, and in March 2020 was delegated to the RDA for implementation along with several other CDB projects. The Little Dix Hill activity began on the 13 May 2020 and was completed on 14 May 2021, implemented by the RDA. This amounts to a total of 1,145 days to produce the outputs of the two project activities. These project activities aimed at stabilising eastern sections of the Ridge Road by installing retaining walls, and completing adjacent road works to make the roadway safe for passenger traffic. The specific sections of the Ridge Road had been subject to slope failure, having been undermined due to the flooding and hurricanes of 2017. The slope failure deteriorated over time, resulting in significant risk to drivers and passengers traversing the area.

The scope of this project activity encompassed slope stabilisation through construction of retaining walls as well as required culverts and drainage mechanisms, curb walls and guardrails. This work has aimed at improving road safety along these stretches of road, as well as improving traffic flow which had been hindered by the narrowing of the roadway due to the worsening undermining at both sites.

Over a period of 1,145 days, using \$1,000,142, these two project activities were able to deliver on planned outputs, installing retaining structures, drainage and guardrails which have improved road safety and traffic flow on the Ridge Road.

The following sections of this report assess the overall Value for Money of the Ridge Road – Hope to Sabbath and Little Dix Hill project activities, using the methodology outlined in the RDA's VfM Framework Guidelines for Economy, Efficiency, Effectiveness and Equity.

2) Overview of Overall VfM Score (73.7 out of max 100 points)

The main challenge to a more successful overall VfM score for this project was the failure of the project to be within its estimated schedule as well as relevant benchmark for time, which negatively affected the Time Efficiency and Schedule scores. The project activity was able to achieve its targeted outputs and contribute to a broader outcome within its estimated budget and cost benchmark, resulting in full scores for Economy, Cost Efficiency, and Output and Outcome Effectiveness as well as Quality.

Ridge Road – VfM Scoring			
Economy	Economy	10/10	10/10
Efficiency	Cost Efficiency	20/20	20/40
	Time Efficiency	0/10	
	Schedule	0/10	
Effectiveness	Output Effectiveness	20/20	40/45
	Outcome Effectiveness	15/15	
	Quality	5/10	
Equity	Equity Goals	NA/5	NA/5
Overall VfM Score			70/95
Total Adjusted VfM Score			73.68/100

The overall VfM score was 73.7 out of 100. This indicates some scope for improving overall Value for Money of this project, specifically as it relates to efficiency assessment against benchmark time and schedule. More time was spent on the combination of these two project activities than initially envisioned, and the time spent was well-over the time benchmark used. Delays in project completion and exceeding timelines negatively affected the efficiency scores related to time.

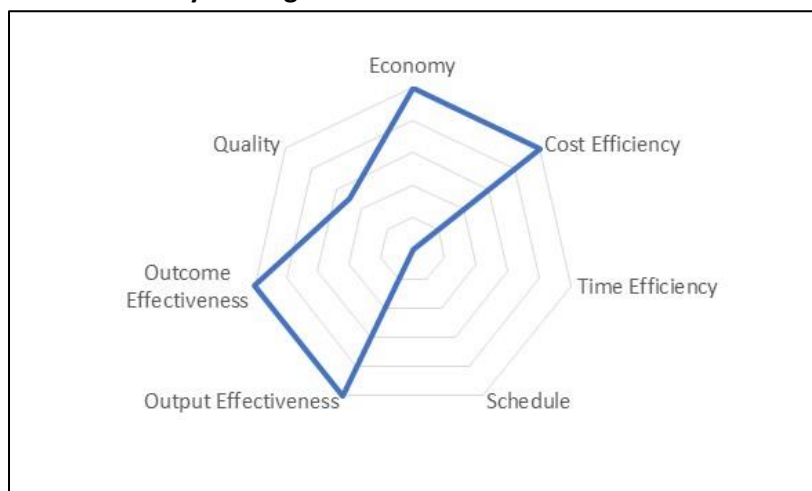
Following discussions on the importance of improving timing of RDA-implemented projects, given that efficiency is a core argument for the continued existence of the RDA in facilitating public sector recovery and development, a decision has been made to present an enhanced scoring framework for Value for Money in the RDA context, which further highlights timing. As such, the Table below presents a more time-focused assessment of VfM for the Ridge Road project activities.

Ridge Road – Time Focused VfM Scoring			
Economy	Economy	10/10	10/10
Efficiency	Cost Efficiency	20/20	20/50
	Time Efficiency	0/15	
	Schedule	0/15	
Effectiveness	Output Effectiveness	20/20	30/35
	Outcome Effectiveness	5/5	
	Quality	5/10	
Equity	Equity Goals	NA/5	NA/5
Overall Time Focused VfM Score			60/95
Total Adjusted Time Focused VfM Score			63.15/100

A focus on the time element results in an Overall Adjusted VfM Score of 63.2 out of 100 for this project activity. Going forward, the time focused VfM Score will be provided alongside the original VfM Scoring framework in all future VfM Reports, to further put into focus the importance of efficiency gains in RDA-implemented projects.

As part of an effort to continuously improve, the RDA has implemented more in-depth planning processes in order to propel efficiency gains by improving time management later on in project execution by more adequately capturing requirements upfront.

Figure 1: Overall Value for Money Scoring – Radar Chart



The overall Value for Money Scoring Chart (Figure 1) demonstrates the excellent scores received for Economy, Cost Efficiency, Output Effectiveness and Outcome Effectiveness; while assessment of Quality resulted in partial points, and assessments of Schedule and Time Efficiency resulted in no points being assigned for these aspects of Value for Money. Equity was not scored for these project activities.

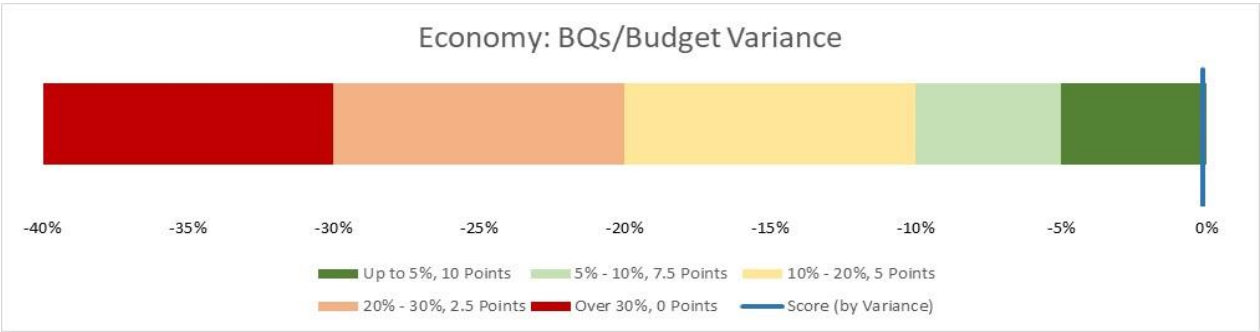
3) ECONOMY (10 out of max 10 points)

The economy of the Ridge Road project activities has been assessed based on the original budget anticipated for the activities, in-line with the CDB Loan Agreement. The original budget was estimated at \$734,000 for the Hope to Sabbath Hill activity, and \$300,000 for Little Dix Hill. As such, the overall original budget for these two activities was \$1,034,000.

The total spend for the Ridge Road project activities as at end of March 2022 is \$1,000,142, which is under the original budget amount, by 3.27%. As such, being within budget, these two project activities were assigned full points in assessment of their Economy (Table 2).

Table 2: Assessment of Economy

ECONOMY ASSESSMENT: 10/10 POINTS	
Original Budget	\$1,034,000.00
Actual Spend	\$1,000,142.20
Variance (\$)	\$33,857.80
Variance (%)	3.27%
ECONOMY SCORE	10



4) ON BENCHMARKS USED

In calculating VfM Scores for both Cost and Time Efficiency, consideration has been given to performance against relevant benchmarks established for production of specific outputs. Giving a background of the benchmarks used, and why, provides the necessary context for comparisons made.

In the case of the Ridge Road project activities, the following benchmarks for cost and time have been used to assess cost and time efficiency:

Type	Benchmark	Sources and Considerations
Cost	\$3,167 per metre of road rehabilitated and slope stabilised	Based on original budget estimate divided by target metres of road rehabilitated and slope stabilised
Time	0.62 metres of road rehabilitated and slope stabilised per day	Based on target metres of road rehabilitated and slope stabilised divided by number of planned project days

Cost Benchmark

The cost benchmark has been determined based on the original budget for the project activities divided by the target metres of road rehabilitated and slope stabilised. This calculated benchmark has been used absent a more objective, independent measure, as this was not readily available. It should be noted that this cost benchmark of \$3,167 per metre of road rehabilitated and slope stabilised, compares favourably to the calculated benchmark used for assessment of Cost efficiency for the Great Mountain activities, which was \$3,617 per metre of road rehabilitated and slope stabilised. Use of either benchmark results in the same scoring.

Time Benchmark

The time benchmark used was determined based on the target metres of road rehabilitated and slope stabilised divided by the number of planned project days. This calculated benchmark has been used absent a more objective, independent measure, as this was not readily available. It should be noted that this time benchmark of 0.62 metres of road rehabilitated and slope stabilised per day is slightly higher in comparison to the calculated time benchmark used for assessment of Time efficiency for the Great Mountain activities, which was 0.59 metres of road rehabilitated and slope stabilised per day. Use of either benchmark results in the same scoring.

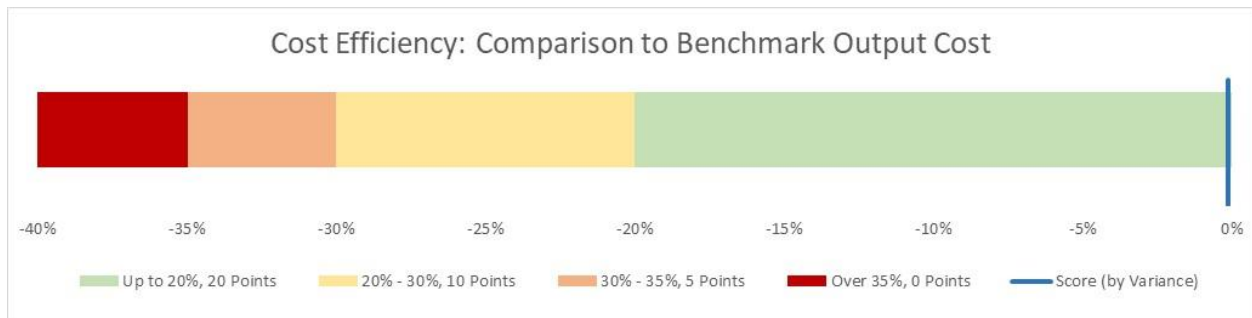
5) EFFICIENCY (20 out of max 40 points)

The efficiency of an intervention considers Output Cost (Cost Efficiency), Output Time (Time Efficiency) and Schedule. In terms of output cost, the project activities involved construction of retaining structures and reconstruction of the adjacent roadways, drainage, curb walls and guardrails over 331 metres on the Ridge Road. This translated to an average of \$3,166.92 per metre of road rehabilitated and slope stabilised to improve road safety and traffic flow in the area. Based on the targeted length of road and retaining walls rehabilitated and the original budget, a benchmark indicative cost of \$3,166.92 has been used.

In this way, the cost of each output for this project was well within (namely 4.5% below) the benchmark cost, therefore a full 20 points have been assigned for cost efficiency (Table 3).

Table 3: Cost Efficiency Assessment

COST EFFICIENCY ASSESSMENT: 20/20 POINTS	
Output Unit Cost	\$3,166.92 per metre of road rehabilitated and slope stabilised
Benchmark Output Unit Cost	\$3,026.15 per metre of road rehabilitated and slope stabilised
Variance (\$)	\$140.77
Variance (%)	4.45%
COST EFFICIENCY SCORE	20



Having started on 1 April 2019, the Hope to Sabbath Hill project activity was initially slated to be completed by 2 January 2020, that is within 276 project days; and the Little Dix Hill project activity began on 13 May 2020 and was originally slated to be completed on 25 January 2021, that is within 257 days. In this way the two project activities were scheduled to be completed within a total of 533 days. The Hope to Sabbath Hill activity was actually completed on 19 May 2021, and the Little Dix Hill activity on 14 May 2021, with a total recorded number of project days therefore at 1,145 days. Given the mandated lockdown period in Mar/Apr 2020 of approximately 28 days, the total actual project days has been adjusted to 1,089 project days (minus two sets of 28 days) for the purposes of assessment of time efficiency and schedule. The calculated output unit time, using the adjusted 1,089 project days, was therefore an average of 0.30 metres of road rehabilitated and slope stabilised per day, whereas the benchmark output unit time was an average of 0.62 metres of road rehabilitated and slope stabilised per day.

This resulted in no points being assigned for Time Efficiency, as the actual outputs – metres of road rehabilitated and slope stabilised - produced within the timeframe (0.30 metres of road rehabilitated and slope stabilised per day) was significantly less than the benchmark output unit time of 0.62 metres of road rehabilitated and slope stabilised per day (Table 4).

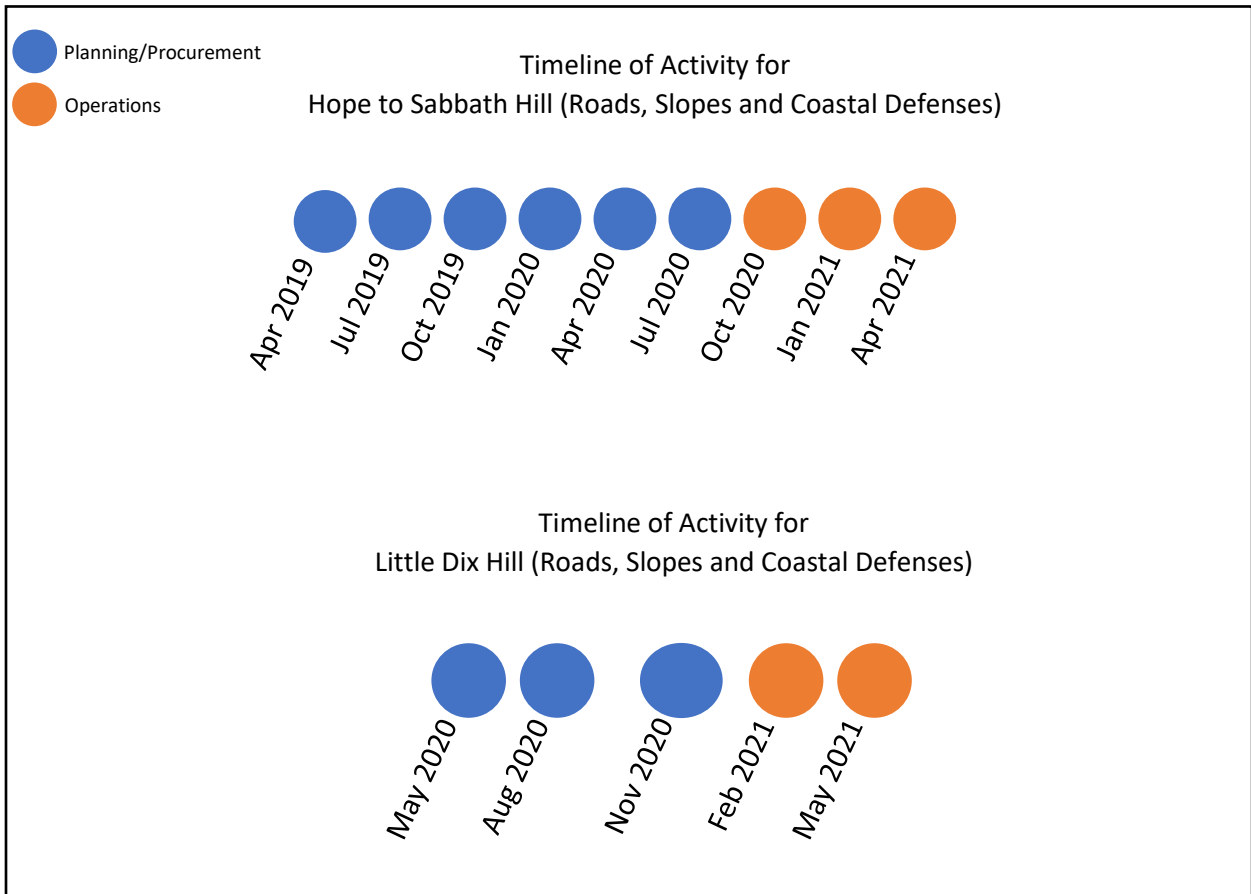
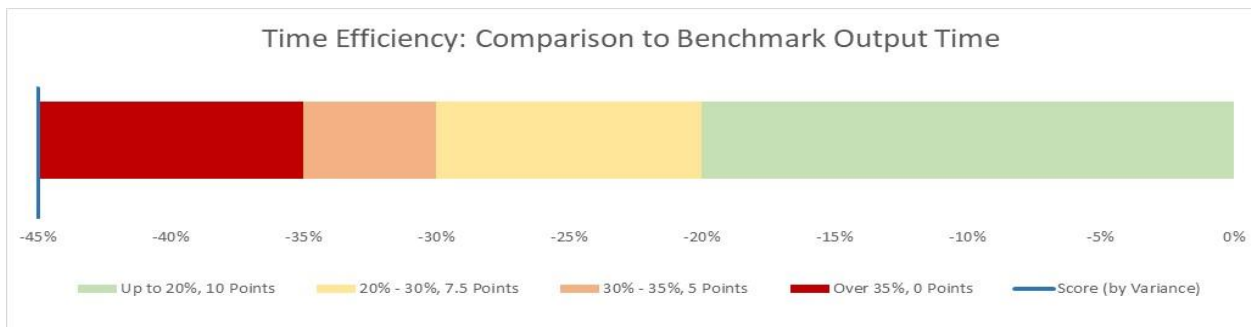


Table 4: Time Efficiency Assessment

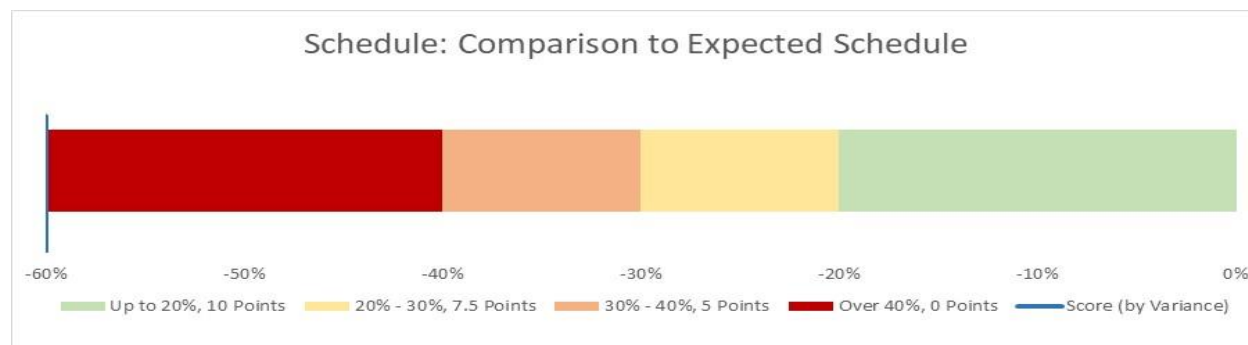
TIME EFFICIENCY ASSESSMENT: 0/10 POINTS	
Output Unit Time	Avg. 0.30 metres of road rehabilitated and slope stabilised per day
Benchmark Output Unit Time	Avg. 0.62 metres of road rehabilitated and slope stabilised per day
Variance (days)	(0.32)
Variance (%)	-51%
TIME EFFICIENCY SCORE	0



In terms of schedule performance, given that there were 533 planned project days compared to a total adjusted number of actual project days at 1,089, the adjusted variance of 612 days meant that the project was 114% over its scheduled timeline, with 0 points thus awarded for the project activity's Schedule assessment (Table 5).

Table 5: Schedule Assessment

SCHEDULE ASSESSMENT: 0/10 POINTS	
Planned Project Days	533 days
Actual Project Days	1,145 days
Adjusted Actual Project Days	1,089 days
Variance (days)	(660 days)
Adjusted Variance (days)	(612 days)
Variance (%)	(104.3%)
Adjusted Variance (%)	(114.8%)
SCHEDULE SCORE	0



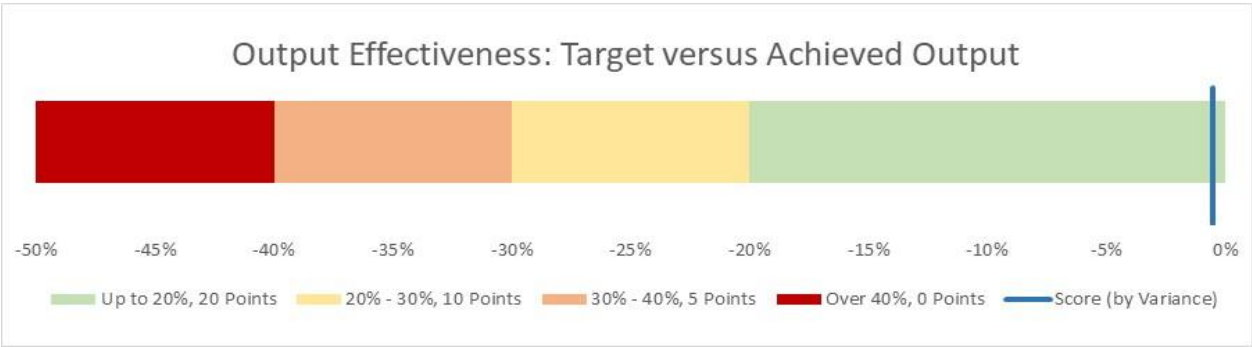
6) EFFECTIVENESS (45 out of max 45 points)

Output effectiveness

Output effectiveness is a measure which compares targeted outputs to achieved outputs, in determining whether and to what extent the project has met output expectations and produced the immediate result intended. In the case of the Ridge Road - Hope to Sabbath and Little Dix Hill project activities, the total number of metres targeted for road rehabilitation and slope stabilisation to improve road safety and traffic flow in these two activities was 327 metres (123 metres of road and 121.5 metres of slope for Hope to Sabbath Hill; and 40 metres of road and 42 metres of slope for Little Dix Hill). The project was able to rehabilitate and stabilise a few more metres than initially targeted, hence a full 20 points has been assigned for Output Effectiveness (Table 6).

Table 6: Target versus Achieved Output

OUTPUT EFFECTIVENESS ASSESSMENT: 20/20	
Targeted outputs rehabilitated and stabilised	327 metres
Achieved outputs rehabilitated and stabilised	331 metres
Variance	4
Variance (%)	1.2%
OUTPUT EFFECTIVENESS SCORE	20



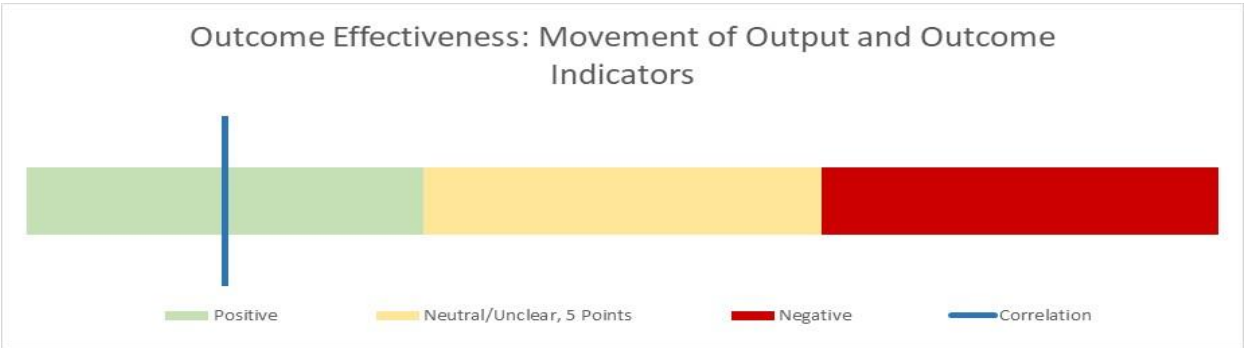
Outcome effectiveness

In terms of outcome effectiveness, the change relationship between the observed output and outcome has been used as a simple measure of outcome effectiveness. Using this methodology, the directional change in output is compared to the directional change in outcome. This assessment aims at determining whether execution of the project has contributed to achievement of the secondary result intended. In the case of the Ridge Road project activities, both the output: metres of road rehabilitated and slope stabilised; as well as the outcome: miles of well-designed road network; moved positively due to execution of this project. In other words, as more metres of road were rehabilitated and slopes were stabilised, more miles of the Territory’s road network could be classified as well-designed. The Ridge Road project activities have thus improved the quality of the road network in the Virgin Islands, thereby improving road safety and traffic flow. Assessment of improvements in road safety will require a longer time period, following which the number of accidents taking place in the area can be assessed, and the expectation is that the number of accidents taking place in the area will decrease.

The change relationship between the output and outcome has thus been deemed a positive correlation, and the maximum score of 15 points has been assigned for this project activity’s outcome effectiveness (Table 7).

Table 7: Relationship between Outputs and Outcomes

OUTCOME EFFECTIVENESS ASSESSMENT: 15/15	
Output change: metres of road rehabilitated and slope stabilised	+331
Outcome change: miles of well-designed road network in the Territory	+21
Assessment of change relationship	Positive correlation
OUTCOME EFFECTIVENESS SCORE	15



Quality

Assessment of quality involves evaluating to what extent the project intervention has met quality expectations and may be based on meeting industry standards, meeting user expectations, and/or (not) having valid defects reported. In the case of the Ridge Road project activities, quality has been assessed on all three bases: meeting industry standards, reports of valid defects, and user surveys.

The rehabilitation and stabilisation of the road and slopes at the Hope to Sabbath and Little Dix Hill sites involved several enhancements which have made the roadway safer and more resilient, including installation of drainage, curb walls and guardrails. These enhancements have improved the overall quality of the roadway, meeting industry standards for resilient construction. Additionally, a total of five (5) valid defects have been reported on the roadway within the defects and liabilities period of twelve months/one year, related to the precision of the concrete work completed. A user feedback survey was conducted in March 2022 to assess whether and to what extent specific road projects met users' expectations.

The survey was disseminated to specific stakeholders that attended relevant community meetings, as well as broadly to the general public. User responses indicated general dissatisfaction with the quality of work carried out on the Hope to Sabbath Hill and Little Dix Hill roadways. An average rating of only 2 out of 5 was given by respondents for the quality of work done on the road. Specific feedback from survey respondents included: "It's unfinished", "Still not finished properly", "There is now/already a huge pothole at the Little Dix Hill end of the road" and "The road still has huge potholes, unfinished portions and bad guard rails". It should be noted that the RDA was tasked with rehabilitation of only a small portion of the road, whereas respondents' indication of dissatisfaction likely related to portions of the road not rehabilitated by the Agency.

Given that industry standards on resilience were met, five (5) valid defects were reported, and some dissatisfaction has been indicated by survey respondents, this resulted in assignment of "Partially Met" in the quality assessment of these project activities. A score of 5/10 for Partially Met Quality has thus been assigned for these activities (See Table 8 below).

Table 8: Quality assessment

QUALITY ASSESSMENT: 5/10	
Industry Standards on Resilience	Met
Valid Defects Reported	5
User Survey Results	Dissatisfied
Assessment of Quality	Partially Met
QUALITY SCORE	5

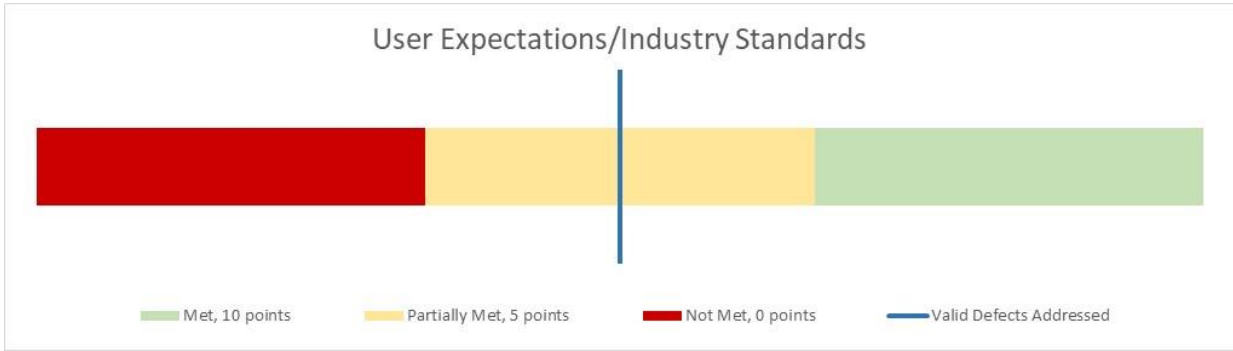
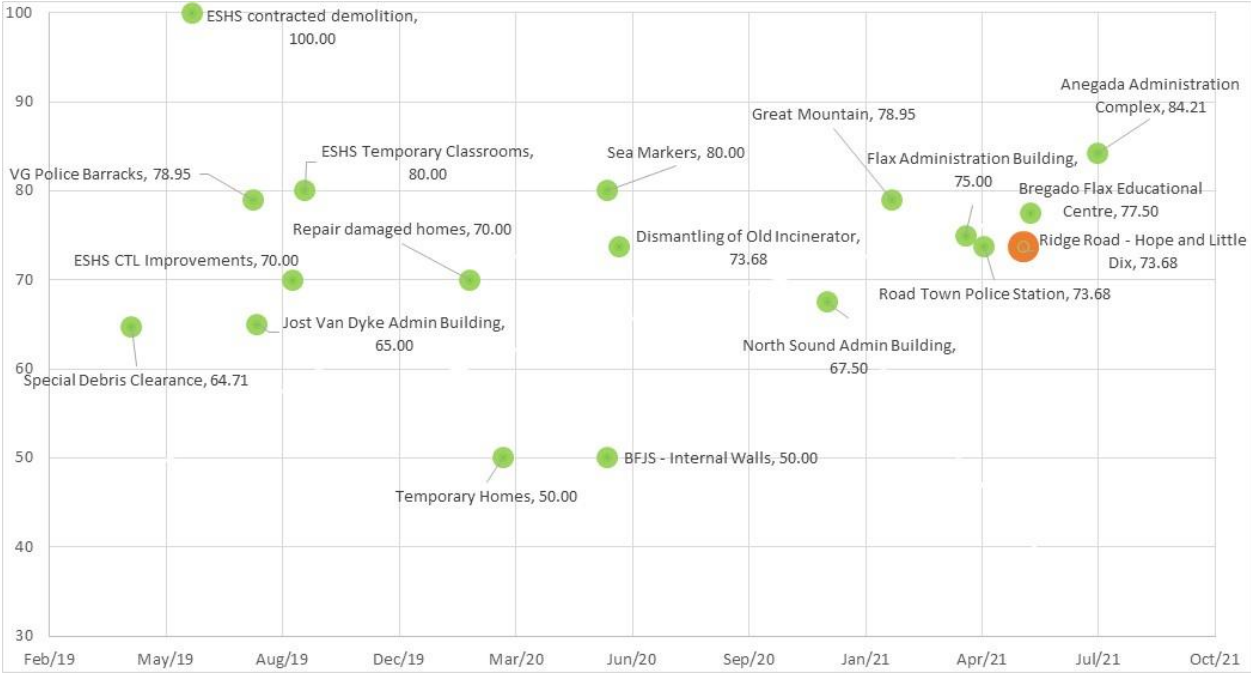


Figure 2: VfM Score Comparison with Other Completed Projects



Lessons identified coming out of the Ridge Road – Hope to Sabbath and Little Dix Hill project activities include:

- 1) Improving time management throughout project cycle to ensure that deliverables are produced in accordance with the project plan and schedule;
- 2) Consideration that passage of time between inception and commencement of works carries risks in terms of changes in site conditions which may imply required design changes with cost and time variations; and
- 3) Strengthening coordination between public and private sector agencies to ensure that considerations are adequately accounted for in project design and implementation.

7) Conclusions

This report has been prepared using the RDA's Value for Money Framework in assigning a VfM Score to the Ridge Road – Hope to Sabbath and Little Dix Hill project activities based on assessed Economy, Efficiency and Effectiveness of project implementation (Equity was not scored for these activities). The importance of keeping accurate, up-to-date, readily accessible information on project budgets, schedules, spending and results has once again been underlined in the process of conducting this VfM assessment. The Monitoring and Evaluation function continues to play an important role in reviewing the quality of this information, and collating data for the calculation of projects' VfM scores.

Achieving an overall score of 73.7 points out of 100, the Ridge Road project activities' VfM could have been enhanced through improved time management and assessed quality by survey respondents. That said, the project activities intervention was able to remain within budget, surpass achievement of its targeted outputs, and contribute to a broader outcome. The project thus demonstrated perfect scores in Economy, Cost Efficiency, Output and Outcome Effectiveness.

8) The Way Forward

Based on assessment of the Ridge Road (Hope to Sabbath and Little Dix Hill) activities' VfM, there were three main issues that prevented a more successful achievement of Value for Money by the RDA, namely:

- 1) There was an issue with the contractor completing the finishing touches on these activities, specifically in terms of the guardrails along the rehabilitated roadside. Failure to install the guardrails in a timely manner affected the final completion date of the overall project activities, and therefore the actual schedule able to be delivered as well as performance against the time benchmark used. The process of ensuring that snags are completed and that defects are rectified should be closely managed to ensure that project schedules are maintained as closely as possible in the ending stages of project implementation.
- 2) The scope of these project activities was limited to a certain geographical boundary which was seemingly not adequately communicated to stakeholders and the general public. Through user feedback surveys, road users expressed that they found the finished quality of the roads wanting - citing inadequate guardrails and the presence of potholes. Given that these issues were seemingly outside the particular, specific geographical scope of this project, it is clear that this was not understood by the road user respondents.
- 3) Relatedly, the RDA should consider how external factors outside particular project scopes affect the quality of the end products produced, towards managing these factors, insofar as they affect the quality of the RDA's outputs, in terms for instance of relevance and sustainability.

Action Plan to Remedy

	Issue	Solution	Timeframe for Implementation
1	Failure to complete snag list and address defects in a timely manner	Improve management of final implementation milestones to ensure timely completion	Ongoing – during final stages of implementation
2	Stakeholders and general public unaware of limited project scope	Improve communication of project scope limits as much as possible. This may pose a challenge depending on the nature of the project activities	Ongoing – incorporated into communication plans for projects
3	External factors affect overall quality	Consider and manage (to the greatest extent possible) external factors that influence the quality of RDA's outputs	Ongoing – project planning should consider impacts of external factors