

REVIEW EXERCISE

EARNED VALUE MANAGEMENT

GENERAL OBJECTIVE

- Review the earned value management (EVM) tools and techniques by solving an exercise.

CASE DESCRIPTION

The construction of a new highway includes the earth movement, the trace, the pavement, the signaling, and the construction of ten bridges.

Four work areas were defined (Sector 1, Sector 2, Sector 3, and Bridges). Technically speaking the most difficult sector is Sector 2, since there are still some properties that haven't yet been expropriated and this will delay the initiation of the work in this sector.

The network diagrams for Sectors 1 and 3 have some slack/float, while Sector 2 and Bridges are part of the schedule critical path.

The total budget has been estimated at \$45,000,000.00 and the total time/schedule at 33 months.

Based on the following data, analyze the earned value at the end of the project's second trimester.



Planned Value (PV)

DESCRIPTION	TRIMESTER1	TRIMESTER2	TRIMESTER3	TRIMESTER4	TRIMESTER5	TRIMESTER6	TRIMESTER7	TRIMESTER8	TRIMESTER9	TRIMESTER10	TRIMESTER11
SECTOR1											
Earthmovement	\$200.000	\$300.000									
Trace	\$180.000	\$90.000									
Subbase		\$100.000	\$150.000	\$50.000							
Base			\$200.000	\$300.000	\$100.000						
Pavement					\$400.000	\$600.000	\$300.000				
Signaling						\$90.000	\$110.000				
SECTOR2											
Expropriations	\$50.000	\$50.000									
Earthmovement			\$400.000	\$500.000	\$600.000						
Trace			\$300.000	\$400.000	\$450.000						
Subbase				\$220.000	\$350.000	\$400.000	\$200.000				
Base					\$440.000	\$700.000	\$800.000	\$400.000			
Pavement							\$880.000	\$1.400.000	\$1.600.000	\$800.000	\$200.000
Signaling								\$200.000	\$350.000	\$150.000	\$50.000
SECTOR3											
Earthmovement	\$250.000	\$300.000									
Trace	\$200.000	\$120.000									
Subbase		\$120.000	\$180.000	\$50.000							
Base			\$240.000	\$360.000	\$100.000						
Pavement					\$480.000	\$760.000	\$200.000				
Signaling						\$50.000	\$100.000	\$30.000			
Bridges											
Design	\$200.000	\$200.000	\$200.000	\$400.000							
Construction				\$1.000.000	\$5.000.000	\$3.000.000	\$3.000.000	\$3.000.000	\$4.000.000	\$3.000.000	\$2.000.000
Signaling					\$300.000	\$400.000	\$200.000	\$150.000	\$150.000	\$100.000	\$100.000

Actual Cost (AC)

DESCRIPTION	TRIMESTER1	TRIMESTER2	TRIMESTER3	TRIMESTER4	TRIMESTER5	TRIMESTER6	TRIMESTER7	TRIMESTER8	TRIMESTER9	TRIMESTER10	TRIMESTER11
SECTOR1											
Earthmovement	\$170.000	\$290.000									
Trace	\$185.000	\$80.000									
Subbase		\$90.000									
Base											
Pavement											
Signaling											
SECTOR2											
Expropriations	\$50.000	\$50.000									
Earthmovement											
Trace											
Subbase											
Base											
Pavement											
Signaling											
SECTOR3											
Earthmovement	\$240.000	\$305.000									
Trace	\$210.000	\$100.000									
Subbase		\$115.000									
Base											
Pavement											
Signaling											
Bridges											
Design	\$200.000	\$200.000									
Construction											
Signaling											



Earned Value (EV)

DESCRIPTION	TRIMESTER1	TRIMESTER2	TRIMESTER3	TRIMESTER4	TRIMESTER5	TRIMESTER6	TRIMESTER7	TRIMESTER8	TRIMESTER9	TRIMESTER10	TRIMESTER11
SECTOR1											
Earth movement	\$190.000	\$290.000									
Trace	\$190.000	\$80.000									
Subbase		\$100.000									
Base											
Pavement											
Signaling											
SECTOR2											
Expropriations	\$50.000	\$50.000									
Earth movement											
Trace											
Subbase											
Base											
Pavement											
Signaling											
SECTOR3											
Earth movement	\$245.000	\$305.000									
Trace	\$200.000	\$120.000									
Subbase		\$120.000									
Base											
Pavement											
Signaling											
Bridges											
Design	\$200.000	\$200.000									
Construction											
Signaling											

INSTRUCTIONS

Based on the information presented, answer the following questions:

1. How likely is that the project will finish on time?
2. What is the CPI for the project?
3. What is the estimated duration for the project?
4. If you were the project manager would you commit to the estimated duration of the project as per the previous question? Explain.
5. Are there any activities for which you would not recommend the percent complete earned value measuring technique? Explain with an example of one of the activities from this project.
6. The project sponsor requests that the earned value technique only be applied to the critical path activities. Will it be possible to use this technique in that context? Mention one advantage and one disadvantage of applying this strategy.

RULES AND CONSIDERATIONS

- The document must be presented in a .doc format. If needed, in order to support the calculations, you can submit additional files such as MSExcel. These files should be sent as a compressed file type (.zip or .rar). The file must be uploaded to the virtual campus in the specific location established for this purpose.
- The document must be a maximum of ten pages in length.
- Questions related to this deliverable should be channeled through the Inquiries forum.