Estimated Costs

**1. Project Initiation and Planning**

* Project Manager time: $5,000
* Team meetings: $2,000
* Initial documentation: $1,000  
  **Subtotal: $8,000**

**2. Data Collection and Preparation**

* Data acquisition: $1,000
* Data cleaning software: $2,000
* Team member pay rate (80 hours at $50/hour): $4,000  
  **Subtotal: $7,000**

**3. Exploratory Data Analysis**

* Analysis software licenses: $3,000
* Team member pay rate (100 hours at $50/hour): $5,000  
  **Subtotal: $8,000**

**4. Dashboard Design and Development**

* Tableau licenses: $2,000
* Designer pay rate (120 hours at $60/hour): $7,200
* Developer pay rate (160 hours at $70/hour): $11,200  
  **Subtotal: $20,400**

**5. Geospatial and Statistical Analysis**

* Specialized software: $4,000
* Analyst pay rate (200 hours at $65/hour): $13,000  
  **Subtotal: $17,000**

**6. Quality Assurance and Testing**

* QA specialist pay rate (80 hours at $55/hour): $4,400
* Bug fixes and improvements: $3,000  
  **Subtotal: $7,400**

**7. Documentation and Reporting**

* Technical writer pay rate (60 hours at $45/hour): $2,700
* Report design and production: $1,500  
  **Subtotal: $4,200**

**8. User Training and Onboarding**

* Training material development: $2,000
* Training sessions: $3,000  
  **Subtotal: $5,000**

**9. Project Management and Overhead**

* Project manager pay rate (throughout project): $15,000
* Communication tools and software: $1,000
* Miscellaneous expenses: $2,000  
  **Subtotal: $18,000**

**Total Estimated Cost: $95,000**

Budget

Based on the cost estimate, we can determine the budget using the following approach:

1. **Cost Baseline**:  
   Sum of all estimated costs: $95,000
2. **Contingency Reserve** (for known risks, 10% of total estimate):  
   $95,000 \* 0.10 = $9,500
3. **Management Reserve** (for unknown risks, 5% of total estimate):  
   $95,000 \* 0.05 = $4,750
4. **Total Project Budget**:  
   Cost Baseline + Contingency Reserve + Management Reserve  
   $95,000 + $9,500 + $4,750 = **$109,250**

Budget Breakdown by Quarter

Assuming a 12-month project duration:

1. Q1 (25% of budget): $27,312.50
2. Q2 (35% of budget): $38,237.50
3. Q3 (30% of budget): $32,775.00
4. Q4 (10% of budget): $10,925.00