

CHAPTER 8 – CONCLUSIONS

Developing context sensitive solutions for rock slope design and rockfall mitigation is a stepwise process that must involve all stakeholders early in the scoping and design process. Excavation and mitigation design must take into account the area's scenic concerns, historical significance, and wildlife corridors, as well as the safety, cost, and capacity of its roadways. Design specifications should allow the project staff flexibility to modify the slope geometry and engineer mitigation method(s) that fit regional characteristics, roadway theme, and geological features. Context sensitive projects require frequent communication between the contractor and the project owner to ensure the final product meets all stakeholders' interests.

One of the most important considerations in a context sensitive transportation project is developing a slope angle and configuration that fits within the context of the project setting. The cut slope is typically visible to the motorists for a long distance as they move through the corridor. Proper slope angle with respect to kinematics will have a large effect of the long-term stability of the cut.

Rockfall mitigation—incorporating both stabilization and protective measures—is another key concern, and can have tremendous impact on roadway safety. Stabilization measures reduce the frequency of rockfall by either removing the source of the rockfall or increasing the stability of the rock face by increasing the resisting forces and/or decreasing the driving forces. Stabilization measures are normally installed within the rock mass and are much less visible than protection measures. Protection measures accept the reality that rockfall will occur and act to stop, divert, or control it. These practices are installed external to the rock mass and therefore are much more visible.

Maintenance for rock cuts, stabilization, and protective measures is essential to maintain a level of safety required for the roadway. Continual weathering and erosion causes ever-increasing rockfall potential and can decrease the effectiveness of stabilization methods. Protective structures need to be monitored for damage, and accumulated material removed, to ensure their proper functioning.

