SEASONAL ROAD CLOSURE STUDY EXECUTIVE SUMMARY | JUNE 2014

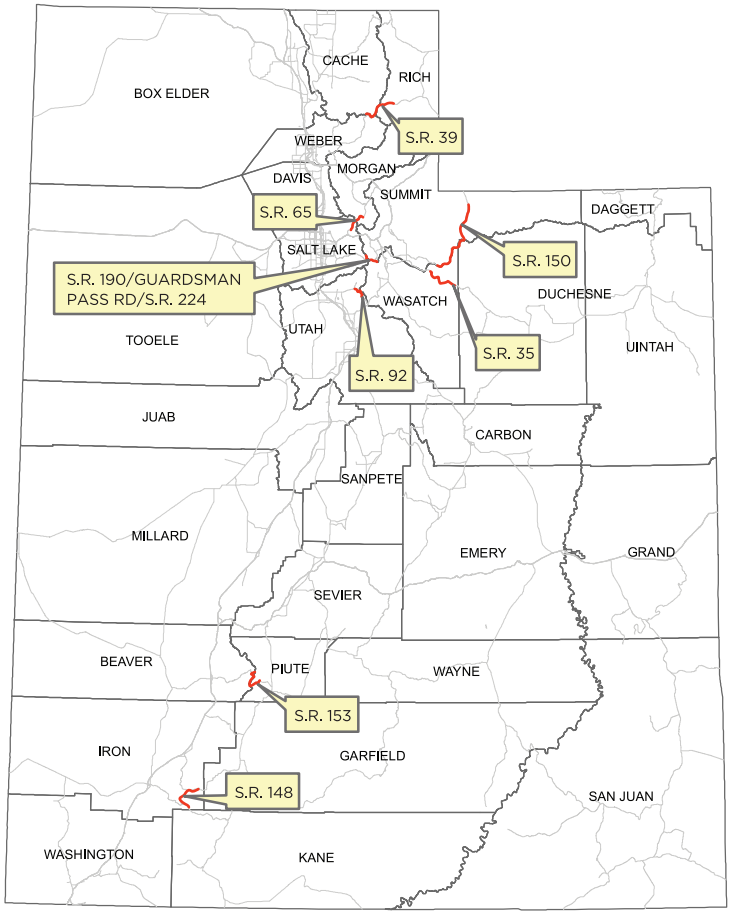
INTRODUCTION

After receiving inquiries about opening some of Utah's seasonal roads year-round, UDOT conducted a feasibility study to review the costs and benefits.

STUDY PURPOSE

- Determine the viability of opening one or more of Utah's eight seasonal roadways year-round.
- Respond to stakeholder inquiries about opening some seasonal roadways year-round.
- Conduct a consistent and comprehensive review of all seasonal roadways.

UTAH SEASONAL ROADS



ANALYSIS PROCESS AND RESULTS

The study team used a two-tiered approach that included a qualitative screening process to identify potential year-round roadway candidates and a quantitative analysis of roadways that met initial screening criteria.

TIER ONE SCREENING

Tier One screening incorporated information from UDOT staff that has direct experience with the corridors. Specific screening criteria included:

- Community and stakeholder requests or interest
- Viable alternate routes considering travel time and trip purpose
- Potential economic impacts
- Jurisdictional authority
- Safety

RESULTS:
State Route 190/Guardsman Pass Road/state Route 224 (Guardsman Pass), state Route 35 (Wolf Creek Pass) and state Route 65 (East Canyon) were carried forward to the second tier analysis.

TIER TWO ANALYSIS

Tier Two analysis included a quantitative analysis of the roads with higher potential to open. The analysis included:

- A cost-benefit analysis of estimated roadway construction costs, capital equipment costs and operations and maintenance costs necessary to maintain the roads year-round
- A travel shed analysis that developed potential user cost savings
- An assessment of near-term economic impact potential

RESULTS: (see inside)

S.R. 190/GUARDSMAN PASS ROAD/S.R. 224 (GUARDSMAN PASS)

COST SUMMARY

ITEM	LOW INITIAL COST	HIGH INITIAL COST	LOW ANNUAL COST	HIGH ANNUAL COST
Construction	$12,366,000	$78,821,000	N/A	N/A
Operations & Maintenance	N/A	N/A	$95,000	$182,000
Capital cost, equipment	$1,500,000	$1,650,000	$78,300	$86,200
Capital cost, shed	$2,100,000	$2,400,000	N/A	N/A
Capital cost, right of way	$5,564,000	$56,966,000	N/A	N/A
TOTAL	**$21,530,000**	**$139,837,000**	**$173,300**	**$268,200**

TRAVEL TIME COST BENEFIT ANALYSIS

BRIGHTON TO PARK CITY	
Days per closure "season"	140
Average Daily Traffic (ADT)	930
ADT origin trip percentage	3%
Affected ADT	28
Delay cost/hour	$22.20
Delay cost/minute	$0.37
Minutes saved	28
TOTAL ANNUAL USER COST SAVINGS - BENEFIT	**$40,466**
Equipment amortized	$78,300
Operations & Maintenance (O&M)	$95,000
TOTAL ANNUAL O&M COST	**$173,300**
(COST)/BENEFIT	**$(132,834)**

Near-Term Economic Impact Potential: MEDIUM

S.R. 65 (EAST CANYON)

COST SUMMARY

ITEM	LOW INITIAL COST	HIGH INITIAL COST	LOW ANNUAL COST	HIGH ANNUAL COST
Construction	$2,093,000	$38,616,000	N/A	N/A
Operations & Maintenance	N/A	N/A	$122,000	$276,000
Capital cost, equipment	$780,000	$858,000	$43,500	$47,800
Capital cost, shed	$2,100,000	$2,400,000	N/A	N/A
Capital cost, right of way	$750,000	$1,500,000	N/A	N/A
TOTAL	**$5,723,000**	**$43,374,000**	**$165,500**	**$323,800**

TRAVEL TIME COST BENEFIT ANALYSIS

MORGAN/HENEFER TO SALT LAKE CITY	
Days per closure "season"	140
Average Daily Traffic (ADT)	485
ADT origin trip percentage	100%
Affected ADT	485
Delay cost/hour	$22.20
Delay cost/minute	$0.37
Minutes saved	0
TOTAL ANNUAL USER COST SAVINGS - BENEFIT	**$0**
Equipment amortized	$43,500
Operations & Maintenance (O&M)	$122,000
TOTAL ANNUAL O&M COST	**$165,500**
(COST)/BENEFIT	**$(165,500)**

Near-Term Economic Impact Potential: MEDIUM

S.R. 35 (WOLF CREEK PASS)

COST SUMMARY

ITEM	LOW INITIAL COST	HIGH INITIAL COST	LOW ANNUAL COST	HIGH ANNUAL COST
Construction	$745,000	$894,000	N/A	N/A
Operations & Maintenance	N/A	N/A	$182,000	$411,000
Capital cost, equipment	$390,000	$429,000	$21,700	$23,900
Capital cost, shed	$2,100,000	$2,400,000	N/A	N/A
Capital cost, right of way	$750,000	$1,500,000	N/A	N/A
TOTAL	**$3,985,000**	**$5,223,000**	**$203,700**	**$434,900**

TRAVEL TIME COST BENEFIT ANALYSIS

Days per closure "season"	140
Average Daily Traffic (ADT)	510
Delay cost/hour	$22.20
Delay cost/minute	$0.37
ADT origin trip percentage	22%
TABIONA TO QUINN'S JUNCTION	
Affected ADT	56
Minutes saved	11
HANNA TO QUINN'S JUNCTION	
Affected ADT	56
Minutes saved	22
TOTAL ANNUAL USER COST SAVINGS - BENEFIT	**$95,897**
Equipment amortized	$21,700
Operations & Maintenance (O&M)	$182,000
TOTAL ANNUAL O&M COST	**203,700**
(COST)/BENEFIT	**$(107,803)**

Near-Term Economic Impact Potential: LOW

CONCLUSIONS

S.R. 190/GUARDSMAN PASS RD/S.R. 224 (GUARDSMAN PASS)

- Construction costs to bring this roadway up to UDOT design standards are significant. However, there may be alternative operating scenarios that would allow for a lower level of investment.
- The cost-benefit analysis focused on current, non-discretionary trips and all of the alternate routes for those trips provide travel-time savings. Given this fact, the costs to maintain the roadway during the winter months are greater than the current, non-discretionary user benefits.
- Stakeholder interest, the potential for economic development along the closed section of the roadway, the role access may play in realizing this potential and the Mountain Accord Study's current evaluation of mountain transportation solutions warrant continued evaluation of this roadway.

S.R. 65 (EAST CANYON) AND S.R. 35 (WOLF CREEK PASS)

- The analysis indicates that there are no compelling reasons to change how these roadways are managed during the winter.
- UDOT Regions are reviewing their procedures for closing seasonal roadways and communicating with affected stakeholders.

FOR MORE INFORMATION

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