


ABC Innovative Projects

Depot Street Bridge					
Location	Depot Street over the Rogue River in the city of Rogue River in Jackson County, southern Oregon				
State	Oregon				
Owner	State				
Year ABC Built	2006				
State ID #	OR 19273				
NBI #	19273				
Coordinates	Latitude:	42.43111		Longitude:	-123.17083
Contact Person	Bruce V. Johnson, P.E. State Bridge Engineer Oregon Department of Transportation Phone: 503-986-3344 Email: bruce.v.johnson@odot.state.or.us				
Mobility Impact Time	ABC:	5 days		Conventional:	3 years
Impact Category	Tier 1	Tier 2	Tier 3	Tier 4	Tier 5
			X		
Primary Driver(s)	<ul style="list-style-type: none">• reduced traffic impacts• reduced onsite construction time• improved work-zone safety• improved site constructability• improved material quality and product durability• minimized environmental impacts				
Description	<ul style="list-style-type: none">• 306-ft-long and 76-ft-wide main span concrete tied arch bridge and one 104-ft-long prestressed concrete girder side span; 6,000-ton horizontal skid of 306-ft-long main span• Urban location• Average Daily Traffic count: 8,700 (2007)• Traffic management alternative, if constructed conventionally: extended use of 5-mile detour <p>Existing Bridge: The existing 5-span through-truss bridge was 433.83 ft long and 26 ft wide with concrete spread footing substructure. It had two 12-ft-wide traffic lanes and two 1-ft-wide shoulders. Built in 1956, the bridge was structurally deficient and functionally obsolete and required replacement.</p> <p>Replacement Bridge: The replacement bridge has three 12-ft-wide traffic lanes and two 5-ft-wide shoulders. It consists of the concrete tied arch main span, a precast prestressed concrete I-girder span, and a cast-in-place slab approach span. The cast-in-place concrete abutments and pier are supported on pile foundations.</p> <p>The tied arch design was selected because its shallow structural depth was higher than the typical flood levels at that location and also required less grade difference to</p>				

	connect with intersecting roadways.			
	<p>Construction Methods:</p> <p>The contractor built the tied arch span on temporary supports approximately 25 ft from the existing bridge and built the new abutments and pier under the existing bridge while maintaining traffic. The traffic was then temporarily re-routed onto the new bridge. The existing bridge was demolished and the substructure for the new bridge was finished. Traffic was then detoured and the new bridge was closed.</p> <p>Twelve hydraulic jacks on steel plates were placed under the bridge. The jacks were connected to one pressure system for even pressure in all jacks. The jacks lifted the bridge, the temporary blocking was removed, and a hydraulic skid system was installed. The skid system had a stainless steel bottom and sat on Teflon pads coated with a special lubricant. The jacks were released onto the skid system and the bridge was skidded laterally to its final location. No overlay was applied.</p> <p>The 3-year construction project required only one 5-day closure of the bridge.</p>			
High Performance Materials	<ul style="list-style-type: none">			
Photos				
Additional photos				
Project Planning	Decision-Making Tools	<i>Site Procurement</i>	Procurement	Contracting
	<ul style="list-style-type: none">State process	<ul style="list-style-type: none">	<ul style="list-style-type: none">Design-bid-build	<ul style="list-style-type: none">Full lane closure
Geotechnical Solutions	Foundations & Walls		<i>Rapid Embankment</i>	
	<ul style="list-style-type: none">CIP substructure under traffic		<ul style="list-style-type: none">	
Structural Solutions	Prefabricated Bridge Elements & Systems			Construction
	<i>Elements</i>	Systems	<i>Miscellaneous</i>	<ul style="list-style-type: none">Transverse skids
	<ul style="list-style-type: none">	<ul style="list-style-type: none">Arch span with deck	<ul style="list-style-type: none">	
Costs	The low bid was \$9.2 million for the project; \$6.7 million was the bridge portion, which averages \$288 per square foot of main span.			
Funding	<i>Federal only</i>	<i>State only</i>	Federal and State	<i>Other</i>
			X	
Incentive Program (\$)	<i>Highways for LIFE</i>	<i>IBRD</i>	<i>SHRP2</i>	<i>Other</i>
Contract Plans	Complete Set:		ABC *:	Partial Plans (link to pdf)
Specifications	Complete Set:		ABC *:	Bridge Move Specs (link to doc)
Bid Tabs	Not available.			
Schedule	Engineer's:	Not available.	Actual:	
Other Related	"Moving the Depot Street Bridge: A Summary," ODOT Video (link to DVD)			

Information	ODOT Bridge Engineering Website [http://www.oregon.gov/ODOT/HWY/BRIDGE/]
Photo Credits	Oregon Department of Transportation

* Specific to the ABC used in the project.