

+ Exit 34: Evaluation Criteria

Alternatives for Exit 34

	"34-1B"	"34-3"	"34-7"
Safety Improvements	<ul style="list-style-type: none"> + Improves interchange and I-90 geometry + Replaces non-standard guardrail + Provides local road connection on north and south side of I-90 	<ul style="list-style-type: none"> + Improves interchange geometry + Replaces non-standard guardrail + Provides local road connection on north and south side of I-90 	<ul style="list-style-type: none"> + Improves interchange geometry + Replaces non-standard guardrail + Provides local road connection on north and south side of I-90
Geometric Needs	<ul style="list-style-type: none"> + Corrects superelevation issues on Ramps + Corrects vertical stopping sight distance on ramps. + Provides for standard ramp lengths + Improves roadway grades - Provides at grade RR crossing on south leg of local road close to roundabout - May have snow drifting issues under I-90 bridges 	<ul style="list-style-type: none"> + Corrects superelevation issues on Ramps + Corrects vertical stopping sight distance on ramps. + Provides for standard ramp lengths + Improves roadway grades + Provides grade separation of railroad + Reduces snow drifting issues under bridges 	<ul style="list-style-type: none"> + Corrects superelevation issues on Ramps + Corrects vertical stopping sight distance on ramps. + Provides for standard ramp lengths + Improves roadway grades - Provides at grade RR crossing on south leg of local road close to roundabout - May have snow drifting issues under I-90 bridges
Environmental Impacts	<ul style="list-style-type: none"> + Moves away from RV parks and Blucksberg + Anticip. no effect least tern, red knot, whooping crane - 2 stream crossings - Alkali Ck. - No wetland impacts - Approximately 12 acres of wooded area present (NLEB) - 3 registered/recommended eligible sites within grading limits, 1 directly adjacent - Impacts Centennial Trail - Moves closer to Centennial Trail and Alkali Creek 	<ul style="list-style-type: none"> + Antic. no effect least tern, red knot, whooping crane + Moves away from RV parks and Blucksberg - 3 stream crossings - Alkali Ck. - >0.1 acre wetland impacts - Approximately 12 acres of wooded area present (NLEB) - 3 registered/recommended eligible sites within grading limits, 1 directly adjacent - Impacts Centennial Trail - Moves closer to Centennial Trail and Alkali Creek 	<ul style="list-style-type: none"> + Anticipate no effect to least tern, red knot or whooping crane + Approximately 3 acres of wooded area present (NLEB) + 0 registered or recommended eligible sites within grading limits, - 0 stream crossings - 2 acre wetland impacts - Moves closer to RV parks and Blucksberg - Moves away from Centennial Trail and Alkali Creek
Cost	<ul style="list-style-type: none"> - Added cost to realign I-90 - Interchange cost is high - Structure cost is high - Right of way costs are high 	<ul style="list-style-type: none"> + No need to realign I-90 mainline - Interchange cost is high - Structure cost is very high - Right of way costs are high with more right of way needed on south side of railroad - Structure over railroad adds substantial cost - EB mainline profile raised 	<ul style="list-style-type: none"> - Added cost to reconstruct I-90 over new local road connection requires I-90 grade raise - Interchange cost is high - Structure cost is high - Right of way costs are moderate
Traffic and Level of Service (LOS)	<ul style="list-style-type: none"> + Interchange Provides LOS A + LOS A or B for opening year and design year 	<ul style="list-style-type: none"> + Interchange Provides LOS A + LOS A or B for opening year and design year 	<ul style="list-style-type: none"> + Interchange Provides LOS A + LOS A or B for opening year and design year
Constructability Issues	<ul style="list-style-type: none"> + Can be constructed under I-90 and local traffic + Room for construction staging + Existing interchange can be operated while new interchange is constructed + Minimal impact to railroad during construction + Moderate risk of issues during construction - Construction requires realignment of I-90 - Three new bridges constructed 	<ul style="list-style-type: none"> + Can be constructed under I-90 and local traffic + Room for construction staging + Existing interchange can be operated while new interchange is constructed + Minimal impact to railroad during construction + Moderate risk of issues during construction - Impact to railroad while structure is constructed - Two new bridges constructed 	<ul style="list-style-type: none"> + Can be constructed under I-90 and local traffic + Room for construction staging + Existing interchange can be operated while new interchange is constructed + Minimal impact to railroad during construction + Moderate risk of issues during construction - Requires reconstruction of I-90 for grade raise - Three new bridges constructed
Impacts to access for current and future development	<ul style="list-style-type: none"> + Provides local road connection to new Black Hills National Cemetery expansion + Minimal impact to railroad + Improves access to existing Black Hills National Cemetery - Moves I-90 access away from No Name City Luxury Cabins & RV - Requires realignment of Old Stone Road - Emergency services access further away from area residents 	<ul style="list-style-type: none"> + Provides local road connection to new Black Hills National Cemetery expansion + Improves access to existing Black Hills National Cemetery - Requires realignment of Old Stone Road - Moves I-90 access away from No Name City Luxury Cabins & RV - Emergency services access further away from area residents - Substantial impact to railroad 	<ul style="list-style-type: none"> + Provides local road connection to existing Black Hills National Cemetery + Minimal impact to railroad + Moves interchange access closer to No Name City Luxury Cabins & RV + Emergency services access is closer to area residents - Requires realignment of Blucksberg Drive - Does not provide local road connection to new Black Hills National Cemetery expansion
Right of Way Impacts	<ul style="list-style-type: none"> + No individual residents impacted - Requires moderate permanent right of way - Requires significant temporary right of way 	<ul style="list-style-type: none"> + No individual residents impacted - Requires significant permanent right of way - Requires significant temporary right of way 	<ul style="list-style-type: none"> + Requires minimal permanent right of way + Requires minimal temporary right of way - Residential impact
Flexibility with Future Development	<ul style="list-style-type: none"> + Accommodates the future expansion of the Black Hills National Cemetery + Provides connection to Old Stone Road 	<ul style="list-style-type: none"> + Accommodates the future expansion of the Black Hills National Cemetery + Provides connection to Old Stone Road 	<ul style="list-style-type: none"> + Provides connection to Blucksberg Drive - Does not provide access to the future expansion of the Black Hills National Cemetery
Bicycle Facility Enhancement	<ul style="list-style-type: none"> + Accommodates bicycle access to I-90 + Accommodates bicycle access along Old Stone Road + Accommodates bicycle access to the south local road connection 	<ul style="list-style-type: none"> + Accommodates bicycle access to I-90 + Accommodates bicycle access along Old Stone Road + Accommodates bicycle access to the south local road connection 	<ul style="list-style-type: none"> + Accommodates bicycle access to I-90 + Accommodates bicycle access along Blucksberg Drive + Accommodates bicycle access to the south local road connection
Utility Impacts	<ul style="list-style-type: none"> + No public utility impacts - Moderate private utility impacts 	<ul style="list-style-type: none"> + No public utility impacts - Moderate private utility impacts 	<ul style="list-style-type: none"> + No public utility impacts - High private utility impacts

+ Exit 34: Local Roads Evaluation Criteria

Alternatives for Local Road Connections

	"A"	"B"	"C"
Safety Improvements	+ Provides local road connection on south side of I-90	+ Provides local road connection on south side of I-90	+ Provides local road connection on south side of I-90
Geometric Needs	+ New local road connection will meet geometric standards	+ New local road connection will meet geometric standards	+ New local road connection will meet geometric standards
Environmental Impacts	<ul style="list-style-type: none"> + Anticip. no effect least tern, red knot, whooping crane - 2 stream crossings - Alkali Ck. - No wetland impacts - Approximately 1 acre of wooded area present (NLEB) - Crosses Fort Meade Archeological Site - Impacts Centennial Trail - Parallels BHNC - 130 feet - Level C property - 65 feet - Bisepts view from BHNC 	<ul style="list-style-type: none"> + Anticip. no effect least tern, red knot, whooping crane. - 2 stream crossings - Alkali Ck. - No wetland impacts + Anticip. no effect least tern, red knot, whooping crane - Approximately 16 acres of wooded area present (NLEB) - Crosses Fort Meade Archeological Site - 1 BLM site within grading limits, 2 directly adjacent - Impacts Centennial Trail - Parallels BHNC - 650 feet - Level C property - 65 feet - Bisepts view from BHNC 	<ul style="list-style-type: none"> + Anticip. no effect least tern, red knot, whooping crane - 2 stream crossings - Alkali Ck. - No wetland impacts - Approximately 26 acres of wooded area present (NLEB) - Crosses Fort Meade Archeological Site - 1 listed site in grading limits - 1 BLM site within grading limits, 1 directly adjacent - Impacts Centennial Trail - Parallels BHNC - 650 feet - Level C property - 65 feet - Bisepts view from BHNC
Cost	<ul style="list-style-type: none"> + Shortest and least expensive southern local road alternative - Requires structure across Alkali Creek - Right of way costs are high 	<ul style="list-style-type: none"> - Longer and more expensive southern local road alternative - Requires structure across Alkali Creek - Right of way costs are high 	<ul style="list-style-type: none"> - Longest and most expensive southern local road alternative - Requires structure across Alkali Creek - Right of way costs are high
Traffic and "Level of Service"	+ LOS A for local road	+ LOS A for local road	+ LOS A for local road
Constructability Issues	<ul style="list-style-type: none"> + Can be constructed without affecting local traffic + Avoids steep terrain to the west + Existing interchange provides local road access while new interchange is constructed + Moderate risk of issues during construction - One new box culvert for Alkali Creek 	<ul style="list-style-type: none"> + Can be constructed without affecting local traffic + Existing interchange provides local road access while new interchange is constructed + Moderate risk of issues during construction - Construction is in area of steep terrain - One new box culvert for Alkali Creek 	<ul style="list-style-type: none"> + Can be constructed without affecting local traffic + Existing interchange provides local road access while new interchange is constructed + Moderate risk of issues during construction - Construction is in area of steep terrain - One new box culvert for Alkali Creek
Impacts to access for current and future development	<ul style="list-style-type: none"> + Provides local road connection to new Black Hills National Cemetery expansion + Moves access to existing Black Hills National Cemetery further away - Alignment goes through expansion area of Black Hills National Cemetery - Emergency services access further away from area residents 	<ul style="list-style-type: none"> + Provides local road connection to new Black Hills National Cemetery expansion + Moves access to existing Black Hills National Cemetery further away - Alignment goes through a minimal amount of the expansion area of the Black Hills National Cemetery - Emergency services access further away from area residents 	<ul style="list-style-type: none"> + Provides local road connection to new Black Hills National Cemetery expansion + Alignment avoids the expansion area of the Black Hills National Cemetery + Moves access to existing Black Hills National Cemetery further away - Emergency services access further away from area residents
Right of Way Impacts	<ul style="list-style-type: none"> + No individual residents impacted - Requires moderate temporary right of way - Requires moderate permanent right of way - Significantly impacts the expansion of the Black Hills National Cemetery property 	<ul style="list-style-type: none"> + No individual residents impacted - Requires significant temporary right of way - Requires moderate permanent right of way 	<ul style="list-style-type: none"> + No individual residents impacted - Requires significant temporary right of way - Requires moderate permanent right of way
Flexibility with Future Development	<ul style="list-style-type: none"> + Accommodates the future expansion of the Black Hills National Cemetery - Provides a longer access route to No Name City Luxury Cabins & RV 	<ul style="list-style-type: none"> + Accommodates the future expansion of the Black Hills National Cemetery - Provides a longer access route to No Name City Luxury Cabins & RV 	<ul style="list-style-type: none"> + Accommodates the future expansion of the Black Hills National Cemetery - Provides a longer access route to No Name City Luxury Cabins & RV
Bicycle Facility Enhancement	<ul style="list-style-type: none"> + Accommodates bicycle access to I-90 + Accommodates bicycle access to the south local road connection + Provides Centennial Trail route through box culvert 	<ul style="list-style-type: none"> + Accommodates bicycle access to I-90 + Accommodates bicycle access to the south local road connection + Provides Centennial Trail route through box culvert 	<ul style="list-style-type: none"> + Accommodates bicycle access to I-90 + Accommodates bicycle access to the south local road connection + Provides Centennial Trail route through box culvert
Utility Impacts	<ul style="list-style-type: none"> + No public utility impacts - Minimal private utility impacts 	<ul style="list-style-type: none"> + No public utility impacts - Minimal private utility impacts 	<ul style="list-style-type: none"> + No public utility impacts - Minimal private utility impacts

+ Exit 37: Evaluation Criteria

Alternatives for Exit 37

	"37-1"	"37-2"	"37-3"
Safety Improvements	<ul style="list-style-type: none"> + Improves interchange ramp geometry + Replaces non-standard guardrail 	<ul style="list-style-type: none"> + Improves interchange ramp geometry + Replaces non-standard guardrail + Removes bridge skew for local road over I-90 	<ul style="list-style-type: none"> + Improves interchange geometry + Replaces non-standard guardrail + Removes bridge skew for local road over I-90
Geometric Needs	<ul style="list-style-type: none"> + Corrects superelevation issues on ramps + Corrects vertical stopping sight distance on ramps. + Provides for standard ramp lengths + Improves roadway grades + Provides greater separation from at grade RR crossing on south leg of local road - Does not correct bridge skew and drivers sight lines 	<ul style="list-style-type: none"> + Corrects superelevation issues on ramps + Corrects vertical stopping sight distance on ramps. + Provides for standard ramp lengths + Improves roadway grades + Corrects bridge skew and improves drivers sight lines 	<ul style="list-style-type: none"> + Corrects superelevation issues on ramps + Corrects vertical stopping sight distance on ramps. + Provides for standard ramp lengths + Improves roadway grades + Corrects bridge skew and improves drivers sight lines + Provides standard distance between ramp terminals
Environmental Impacts	<ul style="list-style-type: none"> + Anticipate no effect to least tern, red knot or whooping crane - 2 stream crossings - Approximately 2 acres wetland impacts (1.85 acres PFO) - Approximately 3.5 acres of wooded area present (NLEB) - 0 registered and recommended eligible sites within grading limits 	<ul style="list-style-type: none"> + Anticipate no effect to least tern, red knot or whooping crane - 2 stream crossings - Approximately 1 acre PFO - Approximately 2 acres of wooded area present (NLEB) - 0 registered and recommended eligible sites within grading limits 	<ul style="list-style-type: none"> + Anticipate no effect to least tern, red knot or whooping crane - 2 stream crossings - Approximately 2.5 acres wetland impacts (1 acre PFO) - Approximately 3 acres of wooded area present (NLEB) - 0 registered and recommended eligible sites within grading limits
Cost	<ul style="list-style-type: none"> + Does not require construction of new bridge over I-90 - Moderate cost to reconstruct ramps - Requires retaining wall construction - Right of way costs are moderate 	<ul style="list-style-type: none"> - Moderate cost to reconstruct ramps - Requires retaining wall construction - Required construction of new bridge over I-90 - Right of way costs are more significant 	<ul style="list-style-type: none"> - Moderate cost to reconstruct ramps - Requires reconstruction of I-90 mainline - Required construction of new bridge over I-90 - Right of way costs are high - Requires box culvert extension
Traffic and "Level of Service"	<ul style="list-style-type: none"> + Interchange Provides LOS A + LOS A or B for opening year and design year 	<ul style="list-style-type: none"> + Interchange Provides LOS A + LOS A or B for opening year and design year 	<ul style="list-style-type: none"> + Interchange Provides LOS A + LOS A or B for opening year and design year
Constructability Issues	<ul style="list-style-type: none"> + Room for construction staging + Existing interchange can be operated while new ramps are constructed + Minimal impact to railroad during construction - Difficulty in constructing a new bridge where existing bridge is located and keeping it open to traffic. 	<ul style="list-style-type: none"> + Room for construction staging. + New bridge can be constructed while existing bridge is in use. + New ramps can be constructed while existing ramps are in use. - Minimal impact to railroad during construction but requires relocation of the railroad crossing. 	<ul style="list-style-type: none"> + Room for construction staging. + New bridge can be constructed while existing bridge is in use. - Minimal impact to railroad during construction but requires relocation of the railroad crossing - Requires realignment of I-90. - Higher risk of issues during construction - Construction and traffic staging will be more complex and will affect I-90 and local road access.
Impacts to access for current and future development	<ul style="list-style-type: none"> + Minimal impact to railroad + No change for emergency services access - Impact to adjacent farmland and residence 	<ul style="list-style-type: none"> + Minimal impact to railroad + No change for emergency services access - Impact to adjacent farmland and land west of railroad 	<ul style="list-style-type: none"> + Minimal impact to railroad + No change for emergency services access - Significant impact to adjacent farmland and land west of railroad
Right of Way Impacts	<ul style="list-style-type: none"> - Impact to adjacent residence - Requires moderate permanent right of way - Requires moderate temporary right of way 	<ul style="list-style-type: none"> + Requires minimal permanent right of way - Impact to adjacent farmland - Requires moderate temporary right of way 	<ul style="list-style-type: none"> - Impact to adjacent farmland - Requires significant permanent right of way - Requires moderate temporary right of way
Flexibility with Future Development	<ul style="list-style-type: none"> + Does not change access for existing or future land use 	<ul style="list-style-type: none"> + Does not change access for existing or future land use 	<ul style="list-style-type: none"> + Does not change access for existing or future land use
Bicycle Facility Enhancement	<ul style="list-style-type: none"> + Accommodates bicycle access to I-90 	<ul style="list-style-type: none"> + Accommodates bicycle access to I-90 	<ul style="list-style-type: none"> + Accommodates bicycle access to I-90
Utility Impacts	<ul style="list-style-type: none"> + No public utility impacts - Minimal private utility impacts 	<ul style="list-style-type: none"> + No public utility impacts - Minimal private utility impacts 	<ul style="list-style-type: none"> + No public utility impacts - Minimal private utility impacts

+ Exit 40: Evaluation Criteria

Safety Improvements	<ul style="list-style-type: none"> + Improves ramp geometry and merge onto I-90
Geometric Needs	<ul style="list-style-type: none"> + Corrects superelevation issue on EB Ramp + Provides for standard EB off and WB on ramp lengths + Improves ramp grades - May continue to have snow drifting issues on EB off ramp
Environmental Impacts	<ul style="list-style-type: none"> + Anticipate no effect to least tern, red knot or whooping crane - 1 NWI stream crossing - 0 wetland impacts - Approximately 0.5 acres of wooded area present (NLEB) - 0 registered and recommended eligible sites within grading limits,
Cost	<ul style="list-style-type: none"> - Moderate cost to reconstruct ramps - Right of way costs are minimal
Traffic and “Level of Service”	<ul style="list-style-type: none"> + Interchange Provides LOS A + LOS A or B for opening year and design year
Constructability Issues	<ul style="list-style-type: none"> + Can be constructed under I-90 and local traffic + Room for construction staging + Existing interchange can be operated while new ramps are constructed + Moderate risk of issues during construction
Impacts to access for current and future development	<ul style="list-style-type: none"> + Does not change existing access to interchange
Right of Way Impacts	<ul style="list-style-type: none"> + Minor individual residences impacted + Requires minimal permanent right of way + Requires minimal temporary right of way
Flexibility with Future Development	<ul style="list-style-type: none"> + Does not affect existing or future land use
Bicycle Facility Enhancement	<ul style="list-style-type: none"> + Accommodates bicycle access to I-90
Utility Impacts	<ul style="list-style-type: none"> + No public utility impacts - Minimal private utility impacts