

MEMORANDUM

State of Alaska

Department of Transportation & Public Facilities

TO: Ryan F. Anderson, P.E.,
Preconstruction Engineer
Northern Region

DATE: September 1, 2015

FILE NO: I:\Traffic Data\DESIGN\2015\Rich_60638.doc

TELEPHONE NO: 451-5150

FROM: *JMC*
Judy Chapman
Planning Chief
Northern Region

SUBJECT: Richardson Highway MP 115-148
Rehabilitation
AKSAS # 60638

Please approve the attached updated design designation by signing the endorsement below which enables your staff to proceed. This design designation was broken into two sections to represent the changes in functional class and traffic patterns occurring at the Tok Cutoff.

Any questions should be directed to Scott Vockeroth at 451-2251.



Ryan F. Anderson, P.E., Preconstruction Engineer

9/14/2015

Date

SGV/rlm

cc: Russell Johnson, P.E., Engineering Manager, Northern Region

Attachment

Please circulate and return to Traffic Data & Forecasting Manager	
Planning Manager (outside FNSB)	<i>[Signature]</i>
Planning Chief	<i>for [Signature]</i>
Fairbanks Area Planner (FNSB)	<i>[Signature]</i>
Traffic & Safety	<i>[Signature]</i>
Any changes, additions, or questions, Please write on this sheet	

DESIGN DESIGNATION
Northern Region Planning
Traffic Data & Forecasting

ROUTE NAME: Richardson Hwy
STATE ROUTE NO: 190000
CDS MILEAGE: 117.64-131.675
FUNCTIONAL CLASS: Interstate
URBAN/RURAL: Rural

	YEAR	AADT	%	
ADT	2014	915		
	2035	1130		
	2045	1250		
DHV	2035		17.6	200
	2045			220
D			60-40	
T			23.00 %	Total
			15.00	Class 5
			1.25	Class 6
			2.50	Class 8
			1.75	Class 9
			1.00	Class 10
		1.50	Class 13	
ESAL'S (Design Lane)	To Be Provided by Design			

DESIGN DESIGNATION
Northern Region Planning
Traffic Data & Forecasting

ROUTE NAME: Richardson Hwy
STATE ROUTE NO: 190000
CDS MILEAGE: 131.675-150.974
FUNCTIONAL CLASS: Minor Arterial
URBAN/RURAL: Rural

	YEAR	AADT	%	
AADT	2014	450		
	2035	555		
	2045	615		
DHV	2035		17.6	100
	2045			115
D			60-40	
T			23.00 %	Total
			15.00	Class 5
			1.25	Class 6
			2.50	Class 8
			1.75	Class 9
			1.00	Class 10
			1.50	Class 13
ESAL'S (Design Lane)	To Be Provided by Design			

MEMORANDUM

State of Alaska
Department of Transportation & Public Facilities
Northern Region Design and Engineering Services

TO: Judy Chapman.
Planning Chief
Northern Region

DATE: August 5, 2015

FILE NO: H:\Projects\Rich_Hwy\60638_Rich_115_148\7 Eng Support\1
Planning\Designation Request 60638.docx

THRU: *TW For*
Ryan F. Anderson, P.E.
Preconstruction Engineer
Northern Region

PHONE NO: 451-5059

FAX NO: 451-5126

FROM: Russell Johnson, P.E. *RJ*
Engineering Manager
Northern Region

SUBJECT: Richardson Highway MP 115-148
Rehabilitation
AKSAS # 60638
Design Designation Request

Please provide a Design Designation for the subject project.

- Present AADT
- Design Year AADT (2045)
- Mid-Design Period AADT (2035)
- Design Hourly Volume
- Directional Split
- Percent Trucks
- Design Functional Classification
- Intersection Turning Movement Counts at:
- Other (*Specify*)

The project is currently scheduled for construction in FY2019.

Please complete the attached Traffic Date Request Form.

Attachment:

RMJ

Traffic Data Request Form		TDR Form-1-10/20/03																			
Alaska Department of Transportation & Public Facilities																					
Requested By: Russell Johnson		Design Project Number: 60638	Date Requested: 8/5/15																		
Base Year: 2014 Base Year Total AADT: 915 AADT Growth Rate Forward (%/yr): End Year: 2045 Back Cast (%/yr): Begin Year:		Common Route Name: Richardson Hwy Functional Class: Urban/Rural Interstate Historic M.P. Interval:	CDS Route Name: CDS M.P. Interval: 117.64-131.675																		
<table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:20%;">Truck Category</th> <th style="width:30%;">Load Factor (ESALs per Truck)</th> <th style="width:50%;">% of Total AADT in Truck Category</th> </tr> </thead> <tbody> <tr><td>2-axle</td><td></td><td></td></tr> <tr><td>3-axle</td><td>See</td><td></td></tr> <tr><td>4-axle</td><td>attached</td><td></td></tr> <tr><td>5-axle</td><td></td><td></td></tr> <tr><td>≥ 6-axle</td><td></td><td></td></tr> </tbody> </table>		Truck Category	Load Factor (ESALs per Truck)	% of Total AADT in Truck Category	2-axle			3-axle	See		4-axle	attached		5-axle			≥ 6-axle			Lane Configuration Sketch: (Designer: Provide sketch of lane layout. Number each lane and show directions.) 	
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3-axle	See																				
4-axle	attached																				
5-axle																					
≥ 6-axle																					
Percent of Base Year Total AADT for Each Numbered Lane in Configuration Sketch: <table border="1" style="width:100%; border-collapse: collapse;"> <tbody> <tr><td>Lane # 1</td><td>% 60</td></tr> <tr><td>Lane # 2</td><td>% 40</td></tr> <tr><td>Lane #</td><td>%</td></tr> <tr><td>Lane #</td><td>%</td></tr> <tr><td>Lane #</td><td>%</td></tr> <tr><td>Lane #</td><td>%</td></tr> </tbody> </table>		Lane # 1	% 60	Lane # 2	% 40	Lane #	%	Lane #	%	Lane #	%	Lane #	%	Comments:							
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Lane #	%																				
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Lane #	%																				
Data Provided By: Scott Vockerath Randi Matsko		Provider's Signature: 	Date Provided: 9/1/15																		

Figure 6-1. Traffic Data Request (TDR) Form

Traffic Data Request Form

TDR Form-1-10/20/03

Alaska Department of Transportation & Public Facilities

Requested By: <i>Russ Johnson</i>		Design Project Number: <i>60638</i>	Date Requested: <i>8/5/15</i>																		
Base Year: <i>2014</i> Base Year Total AADT: <i>450</i> AADT Growth Rate Forward (%/yr): <i>1</i> End Year: Back Cast (%/yr): Begin Year:		Common Route Name: <i>Richardson Hwy</i> Functional Class: <i>Urban/Rural</i> <i>Minor Arterial</i> Historic M.P. Interval:	CDS Route Name: CDS M.P. Interval: <i>131.675</i> <i>150.974</i>																		
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Data Provided By: <i>Scott Vockeroth & Randi Motoko</i>		Provider's Signature: 	Date Provided: <i>9/1/15</i>																		


































































Figure 6-1. Traffic Data Request (TDR) Form

































































































































Report Route Log
CDS Route RICHARDSON HIGHWAY (190000)
From Milepoint 113
To Milepoint 157






































































Filter FacilityType INTERCHANGE RAMP;NON-INVENTORY;WYE;SECONDARY FERRY ACCESS;ROUNDBOUT;PRIMARY FERRY ACCESS;NON-INTERCHANGE RAMP;MAINLINE;CONNECTOR








































Milepoint	Attribute	Side	Feature CDS	Description	Viewer
113	Functional Class	-	-	PRINCIPAL ARTERIAL - OTHER (Start at Milepoint 0)	
113.1465	Intersection	R	-	CHESHNINA ROAD	
113.1912	Intersection	L	-	TRAILER COURT ROAD	
113.3298	Intersection	R	-	NATIVE VILLAGE OF TAZLINA ENTRANCE	
113.3631	Intersection	R	-	TAZLINA RIVER ACCESS ROAD	
113.6774	Intersection	R	195400	SCHOOL ROAD	
113.762	Intersection	R	-	UNNAMED ROAD	
113.7723	Milepost	R	-	111	
113.79	Intersection	R	-	TAZLINA GAS STATION ACCESS LOOP ROAD	
113.9508	Intersection	R	-	TAZLINA GAS STATION ACCESS LOOP ROAD	
114.1105	Intersection	R	195600	TAZLINA TERRACE	
114.2132	Intersection	R	-	REGIONAL HOUSING AUTHORITY ACCESS ROAD	
114.5615	Intersection	R	195700	COPPERVILLE ROAD	
114.809	Milepost	R	-	112	
115.4012	Intersection	R	-	SCENIC POINT ACCESS ROAD	

Milepoint	Attribute	Side	Feature CDS	Description	Viewer
115.8709	 Milepost	R	-	113	 
116.7898	 Milepost	R	-	114	 
117.5876	 Intersection	R	-	GLENNALLEN VISITOR INFORMATION CENTER LOOP ROAD	 
117.6437	 Intersection	L	135000	GLENN HIGHWAY	 
117.6437	Functional Class	-	-	PRINCIPAL ARTERIAL - OTHER -> INTERSTATE	 
117.7167	 Intersection	L	-	GLENNALLEN TESORO ALASKA GAS STATION ENTRANCE	 
117.7167	 Intersection	R	-	GLENNALLEN VISITOR INFORMATION CENTER LOOP ROAD	 
117.7971	 Milepost	R	-	115	 
118.049	 Intersection	L	-	GRAVEL PIT ACCESS LOOP ROAD	 
118.1092	 Intersection	L	-	GRAVEL PIT ACCESS LOOP ROAD	 
118.1192	 Intersection	L	-	ACE HARDWARE ACCESS ROAD	 
118.1844	 Intersection	L	-	GULKANA CAFE AND GAS STATION ACCESS LOOP ROAD	 
118.2797	 Intersection	L	-	GULKANA CAFE AND GAS STATION ACCESS LOOP ROAD	 
118.8115	 Milepost	R	-	116	 
119.4293	 Intersection	R	-	BUSH BOTTLE BIN ACCESS LOOP ROAD	 
119.4941	 Intersection	R	-	BUSH BOTTLE BIN ACCESS LOOP ROAD	 
119.5498	 Intersection	L	-	UNNAMED ROAD	 
119.6856	 Intersection	L	-	AUTO PARTS STORE ACCESS LOOP ROAD	 
119.7309	 Intersection	L	-	AUTO PARTS STORE ACCESS LOOP ROAD	 
119.8381	 Milepost	R	-	117	 
120.7018	 Intersection	L	-	DRY CREEK CAMPGROUND ENTRANCE ROAD	 
120.8489	 Milepost	R	-	118	 

Milepoint	Attribute	Side	Feature CDS	Description	Viewer
120.9652	 Intersection	R	-	GULKANA AIRFIELD ACCESS ROAD	 
121.1354	 Intersection	R	-	GULKANA AIRFIELD ACCESS ROAD	 
121.3104	 Intersection	R	-	GULKANA AIRFIELD ACCESS ROAD	 
121.5559	 Intersection	R	-	GULKANA AIRFIELD ACCESS ROAD	 
121.7018	 Intersection	L	-	PIPELINE ROAD 22-APL-1	 
121.8564	 Intersection	R	-	GULKANA AIRFIELD ACCESS ROAD	 
121.8936	 Milepost	R	-	119	 
122.8934	 Milepost	R	-	120	 
123.7749	 Intersection	R	-	UNNAMED ROAD	 
123.8292	 Intersection	L	-	GATED UNNAMED ROAD	 
123.8983	 Milepost	R	-	121	 
124.7861	 Intersection	L	-	SANITARY LANDFILL ACCESS ROAD	 
124.9423	 Milepost	R	-	122	 
125.9935	 Milepost	R	-	123	 
127.0131	 Milepost	R	-	124	 
127.9293	 Intersection	L	-	UNNAMED ROAD	 
128.0676	 Milepost	R	-	125	 
129.0355	 Intersection	R	-	UNNAMED ROAD	 
129.0796	 Milepost	R	-	126	 
129.2187	 Intersection	L	-	UNNAMED ROAD	 
129.3111	 Intersection	L	-	GRAVEL PIT ACCESS ROAD	 
129.3256	 Intersection	R	-	UNNAMED ROAD	 
129.5179	 Intersection	L	-	PIPELINE ROAD 23-APL-19	 

Milepoint	Attribute	Side	Feature CDS	Description	Viewer
129.5201	 Intersection	R	-	UNNAMED ROAD	 
129.5995	 Intersection	R	-	GULKANA RIVER ACCESS ROAD	 
130.0329	 Intersection	R	195720	SECOND STREET	 
130.0856	 Milepost	R	-	127	 
130.3262	 Intersection	R	-	GULKANA RIVER ACCESS ROAD	 
130.3322	 Intersection	L	-	GULKANA RIVER ACCESS ROAD	 
130.406	 Intersection	R	-	GULKANA RIVER RAFT RENTALS ACCESS ROAD	 
130.6029	 Intersection	L	-	UNNAMED ROAD	 
130.967	 Intersection	L	-	COFFEE RIVER COUNTRY B&B ACCESS ROAD	 
130.9847	 Intersection	R	-	GULKANA GUEST CABIN B&B ACCESS ROAD	 
131.0749	 Milepost	R	-	128	 
131.5397	 Intersection	L	-	GAKONA JUNCTION GAS STATION LOOP ROAD	 
131.6148	 Intersection	R	-	OLD TOK CUTOFF HIGHWAY	 
131.6198	 Intersection	L	-	GAKONA JUNCTION GAS STATION LOOP ROAD	 
131.675	Functional Class	-	-	INTERSTATE -> MINOR ARTERIAL	 
131.675	 Intersection	R	230000	TOK CUTOFF HIGHWAY	 
131.9459	 Intersection	L	-	GULKANA RIVER RANCH ACCESS ROAD	 
132.0112	 Intersection	R	-	SELF STORAGE ACCESS ROAD	 
132.0355	 Milepost	R	-	129	 
132.4174	 Intersection	B	-	UNNAMED ROAD	 
133.0297	 Milepost	R	-	130	 
134.0084	 Milepost	R	-	131	 
134.9602	 Milepost	R	-	132	 

Milepoint	Attribute	Side	Feature CDS	Description	Viewer
134.9826	 Intersection	R	-	UNKNOWN NAMED ROAD	 
135.0055	 Intersection	R	-	UNNAMED ROAD (RIVER FRONT RENTALS)	 
135.9931	 Milepost	R	-	133	 
136.9452	 Milepost	R	-	134	 
137.9794	 Milepost	R	-	135	 
139.0248	 Milepost	R	-	136	 
139.4928	 Intersection	L	-	UNNAMED ROAD	 
139.7652	 Intersection	L	-	GULKANA RIVER TRAIL ACCESS ROAD	 
139.9874	 Milepost	R	-	137	 
140.4137	 Intersection	L	-	BLM GULKANA RIVER TRAIL ACCESS ROAD	 
140.9895	 Milepost	R	-	138	 
141.0755	 Intersection	L	-	UNNAMED ROAD	 
141.9863	 Milepost	R	-	139	 
142.9685	 Milepost	R	-	140	 
143.9883	 Milepost	R	-	141	 
144.3247	 Intersection	L	-	SCENIC LOOP ROAD	 
144.4147	 Intersection	L	-	SCENIC LOOP ROAD	 
145.0223	 Milepost	R	-	142	 
146.0089	 Milepost	R	-	143	 
146.9518	 Milepost	R	-	144	 
147.9956	 Milepost	R	-	145	 
148.9463	 Milepost	R	-	146	 
149.9752	 Milepost	R	-	147	 

Milepoint	Attribute	Side	Feature CDS	Description	Viewer
149.9919	 Intersection	L	-	SCENIC LOOP ROAD	 
150.0622	 Intersection	L	-	SCENIC LOOP ROAD	 
150.4378	 Intersection	L	-	PIPELINE ROAD 28-APL-AMS-2	 
150.563	 Intersection	L	-	SOURDOUGH CREEK CAMPGROUND ACCESS ROAD	 
150.7285	 Intersection	L	-	SOURDOUGH CREEK RV PARK ROAD	 
150.974	 Milepost	R	-	148	 
151.2203	 Intersection	L	-	PIPELINE ROAD 26-APL-AMS-3	 
151.911	 Milepost	R	-	149	 
152.9077	 Milepost	R	-	150	 
153.8987	 Milepost	R	-	151	 
154.7541	 Milepost	R	-	152	 
155.6932	 Milepost	R	-	153	 
156.9738	 Milepost	R	-	154	 

Computations and Historic Data

Project: Richardson Hwy MP 115-148 Rehab
 Project # 60638

Historic AADT

Route:190000

Station #	CDS MP	Location Description	1995	1996	1997	1998	1999	2000	2001
32194000	131.509	Rich Hwy South of Tok Cutoff	1071	1250	1424	1370	1184		
10100071	121.341	Rich Hwy @ Gulkana Airport	945	937	953	985	989	968	976
32195000	131.811	Rich Hwy North of Tok Cutoff	474	550	762	619	559		673
32196000	150.569	Rich Hwy at Sourdough Creek Campground		489			403		

Station #	CDS MP	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
32194000	131.509		1368	1628	1326	1359	1682	1241					1210	898
10100071	121.341	988	999	999	1014	987	954	918	982	1012	976	932	926	903
32195000	131.811		683	680	590	557	868	670	631	701	843		630	480
32196000	150.569				600			471	421	514		538		399

Growth rate for calculations was 1% due to historic traffic patterns.

Growth Rate factors

2035	1.23
2045	1.36

Future AADTs

Year	AADT	*Between Glennallen and Tok	Year	AADT	*Tok Cutoff-End of project
2014	915	Cutoff	2014	450	
2035	1130		2035	555	
2045	1250		2045	615	

DHV= 17.60%

2035	200	*Glennallen-Tok Cutoff	2035	100	*Tok Cutoff-End of project
2045	220		2045	115	

Direction Split (D)= 60-40

Class Data

Route 190000

Station #	Description	CDS MP	Year	aadt	PctCls05	PctCls06	PctCls08	PctCls09	PctCls10	PctCls13	Total Truck %
10100071	Rich Hwy @ Gulkana Airport	121.341	2014	904	15.00%	1.25%	2.50%	1.75%	1.00%	1.50%	23.00%
	Load Factors				0.5	0.85	1.2	1.55	2.24	2.24	
	# Axles				2	3	4	5	6	7+	