



# SAFETY CORRIDORS AUDIT 2014

## STATE OF ALASKA

Department of Transportation and Public Facilities

Central Region-Division of Design and Engineering Services

Accepted: Marc Luiken, P.E., Commissioner

Date: 2/13/2015

Reviewed: Rob Campbell P.E., Regional Director

### Safety Corridor Review Team

Tammy Kramer, Acting Administrator, Alaska Highway Safety Office AHSO, DOT/PF HQ Juneau

Lt. David Hanson, Bureau of Highway Patrol, AST HQ Division

Matt Walker, P.E., Assistant State Traffic & Safety Engineer, DOT/PF HQ Juneau

Scott Thomas, P.E., Central Region Traffic & Safety Engineer, DOT/PF

### SUBJECT: Safety Corridors – 2014 Annual Review

The purpose of this audit is to review efforts to reduce fatal and major injury crashes<sup>1</sup>. The 2014 annual review was conducted by agency staff tasked with improving road safety, listed above.<sup>2</sup> A joint field review was not conducted, however input from Central EMS and AST Detachments was provided.

### 2014 ACTIONS

Education: - AHSO contracted statewide media services for safety messages in 2014. Safety Corridor specific messages were not issued in 2014. Impaired driving was emphasized on holidays and midway between. -9/6/14 DOT/PF meeting with Girdwood 2020 to discuss past projects, scope of future road work.

Engineering: - High intensity reflectors installed on guardrail on all main southcentral highways summer 2014

- Driver feedback speed signs turned on in all safety corridors summer 2014
- Knik-Goose Bay Rd/Fern St signal completed 2014
- Knik-Goose Bay Rd/Fairview Lp/Clapp St realignment, signal is in final Design
- Parks Highway Corridor Phase I: Lucas to Church Road is in Construction.
- Seward Highway MP 88 curve widening, guardrail reduction completed 2014
- Sterling Highway Corridor left turn lane for Jim Dahler/Forest Lane is in Design
- Multilane studies for all four corridors are in Planning or Environmental stages.
- Connected permanent Changeable Message Signs (CMS) to 511 Traveler Info.

Enforcement: - BHP/AST provided field enforcement around Safety Corridors, large traffic events, holidays

- A new electronic 12-200 crash report form was implemented January 1, 2013 with more data fields.
- DOT/PF federal safety funds for enforcement in Safety Corridors were used in 2014.
- Performance reporting research project approved. Equipment and research startup begun Dec 2014.

### 2014 RESULTS: Serious crashes are down by a combined average of 41% in Safety Corridors.<sup>3</sup>

- One exception has been the fatal crash rates on the Seward Highway have increased when averaged over the years since Designation. These are low numbers sensitive to a change of one crash per year. They occur primarily a fall/winter off-season problem during daylight hours equally on dry or icy roads. Overall, the total serious injury crash rate is down by more than one-third.<sup>4</sup>

### RECOMMENDATIONS for 2015

- Review winter maintenance resources available to the KGB and Seward Highway corridors
- Review education and enforcement resources for the Seward Hwy and KGB Safety Corridors
- Create a decommissioning plan for the eastern portion of the Parks Highway Corridor when 4 lane divided highway construction is substantially complete to Pittman Road. Reevaluate all corridors' ranking.

**CURRENT SAFETY CORRIDORS PERFORMANCE (Through 12/31/2014)**

<b>SEWARD HWY MP 87-117</b>	<b>Designated 5/26/06 Extended 10/30/07</b>		<b>3.0 Mi S of Girdwood to Potter Rifle Range</b>		<b>L=30.6 mi</b>
	<b>BEFORE (1/1/96-5/26/06)</b>		<b>AFTER</b>		<b>Overall*</b>
	Crashes Per Year	Crashes/ HMVM	Crashes Per Year	Crashes/ HMVM	
Fatal Crashes F	1.9	2.0	2.7 (+39%)	2.7 (+32%)	
Major Injury Crashes MI	7.0	7.3	3.5 (-50%)	3.5 (-53%)	
Serious Crashes F+MI	8.9	9.4	6.2 (-31%)	6.1 (-35%)	<b>-33%</b>
<b>PARKS HWY MP 44.5-53</b>	<b>Designated 10/16/06</b>		<b>Church Rd, Wasilla to LaRae Rd, Houston</b>		<b>L=8.5 mi</b>
	<b>BEFORE (1/1/96- 10/16/06)</b>		<b>AFTER</b>		<b>Overall*</b>
	Crashes Per Year	Crashes/ HMVM	Crashes Per Year	Crashes/ HMVM	
Fatal Crashes F	1.5	3.3	0.9 (-43%)	1.3 (-59%)	
Major Injury Crashes MI	4.5	10.0	3.0 (-33%)	4.7 (-52%)	
Serious Crashes F+MI	6.0	13.2	3.9 (-35%)	6.1 (-54%)	<b>-45%</b>
<b>KNIK-GOOSE BAY RD MP 0.6-17.2</b>	<b>Designated 7/01/09</b>		<b>Palmer-Wasilla Hwy to Pt. MacKenzie Rd</b>		<b>L=16.4 mi</b>
	<b>BEFORE (1999-2008)</b>		<b>AFTER</b>		<b>Overall*</b>
	Crashes Per Year	Crashes/ HMVM	Crashes Per Year	Crashes/ HMVM	
Fatal Crashes F	1.2	1.4	0.2 (-85%)	0.1 (-91%)	
Major Injury Crashes MI	4.0	4.4	3.6 (-9%)	2.4 (-47%)	
Serious Crashes F+MI	5.2	5.8	3.8 (-27%)	2.5 (-57%)	<b>-42%</b>
<b>STERLING HWY MP 83-93</b>	<b>Designated 7/01/09</b>		<b>Sterling to Soldotna</b>		<b>L=9.8 mi</b>
	<b>BEFORE (1999-2008)</b>		<b>AFTER</b>		<b>Overall*</b>
	Crashes Per Year	Crashes/ HMVM	Crashes Per Year	Crashes/ HMVM	
Fatal Crashes F	1.0	3.0	0.4 (-62%)	0.9 (-70%)	
Major Injury Crashes MI	2.0	6.2	0.9 (-55%)	2.2 (-64%)	
Serious Crashes F+MI	3.0	9.2	1.3 (-57%)	3.1 (-66%)	<b>-61%</b>

**WEIGHTED TOTAL -41%**

\*Interpret results with caution. One year results are too short to be sustained, and three year results are limited. Five or more years are desirable to for a trend to be sustained. Rounded to tenths place.

HMVM = rate of crashes per hundred million vehicle miles of travel. This helps compare all roads equally.

SPECIFIC RECOMMENDATIONS and GOALS: Revised from previous Safety Corridors Audit<sup>5</sup>**Education (AHSO)**

- Update the Safety Corridors website with “frequently asked questions” when possible
- Explore education opportunities towards distracted, aggressive driving, and Rules of the Road.

**Engineering (DOT/PF)**

- Research passing lane signing and effectiveness – Field research scheduled for summer 2015.
- Connect portable Changeable Message Signs (CMS) to 511 Traveler Info.
- Gather speed data from driver feedback speed signs installed in 2014

**Enforcement (DPS)**

- Document enforcement performance in/around Safety Corridors beyond citations. Project research team is assembled and equipment is being installed for 2015 startup.
- Explore enforcement opportunities towards distracted, aggressive driving, and Rules of the Road.

**EMS Response**

- Examine 911 service potential through DOA - Dept. of Administration. Alternative methods for encouraging 911 coverage using callboxes under consideration with Governor’s Safety Initiative.

**Executive Considerations (DOT/PF, DPS)**

- Review regulatory suggestions list, finalize recommended actions

cc: Gary Folger, Commissioner, Department of Public Safety  
Col. James Cockrell, Director, Department of Public Safety, Division of Alaska State Troopers  
Sandra Garcia-Aline, FHWA Division Administrator, Alaska Division, Juneau

**NOTES**

<sup>1</sup> The purpose of this report and any attached data is for planning safety enhancements for high accident corridors with serious injury crashes. This report is used to monitor, develop, and fund ongoing education, enforcement, and engineering of construction improvements.

<sup>2</sup> Fatal and major injury crashes are a serious problem in the Safety Corridors. Per AS 19.10.075, DOT/PF and DPS are responsible for designating Safety Corridors and efforts to reduce serious crashes (ATM 2B.17). It is recognized these roads are at or near capacity. Long term, major roadway projects are desirable to address traffic volume growth (see attached project lists). Until lasting long term changes are made, interim enforcement, education, and engineering solutions are recommended to reduce crashes.

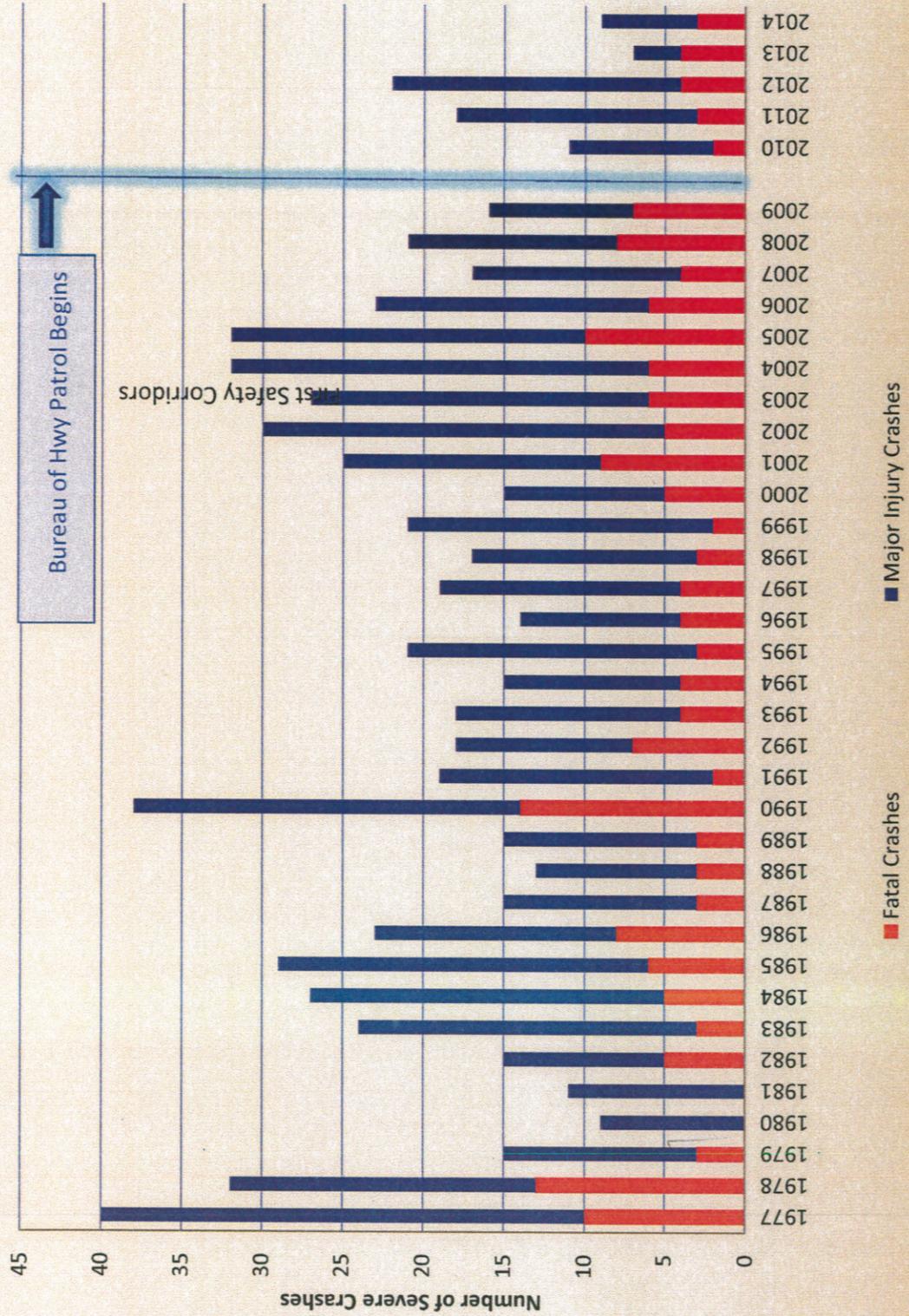
<sup>3</sup> Fatal and major injury crashes are based on the Dispatch and fatal reporting information currently available. Final crash records for 2013-2014 may change as each year’s final record becomes complete.

<sup>4</sup> Fatal crashes are a very small data sample in each corridor each year and can be a volatile indicator of performance. Combined fatal and major injury crashes is recommended for a better indication of performance. Many factors affect the severity of a crash, including roadway geometrics and road conditions, seatbelt use, vehicle type, impairment, fatigue, aggressive driving, and emergency response resources.

<sup>5</sup> Recommendations in this audit will be implemented as funding, time, and staffing resources become available. While there are solutions which require enforcement, education, and engineering work, agencies can only take on a piece of the puzzle by fixing roads, providing information, and creating an expectation for safe driving. Each roadway user remains a significant contributor to whether they are alert and in control. Roadway users have been and remain the deciding factor towards the successful reduction of severe crashes in Safety Corridors.

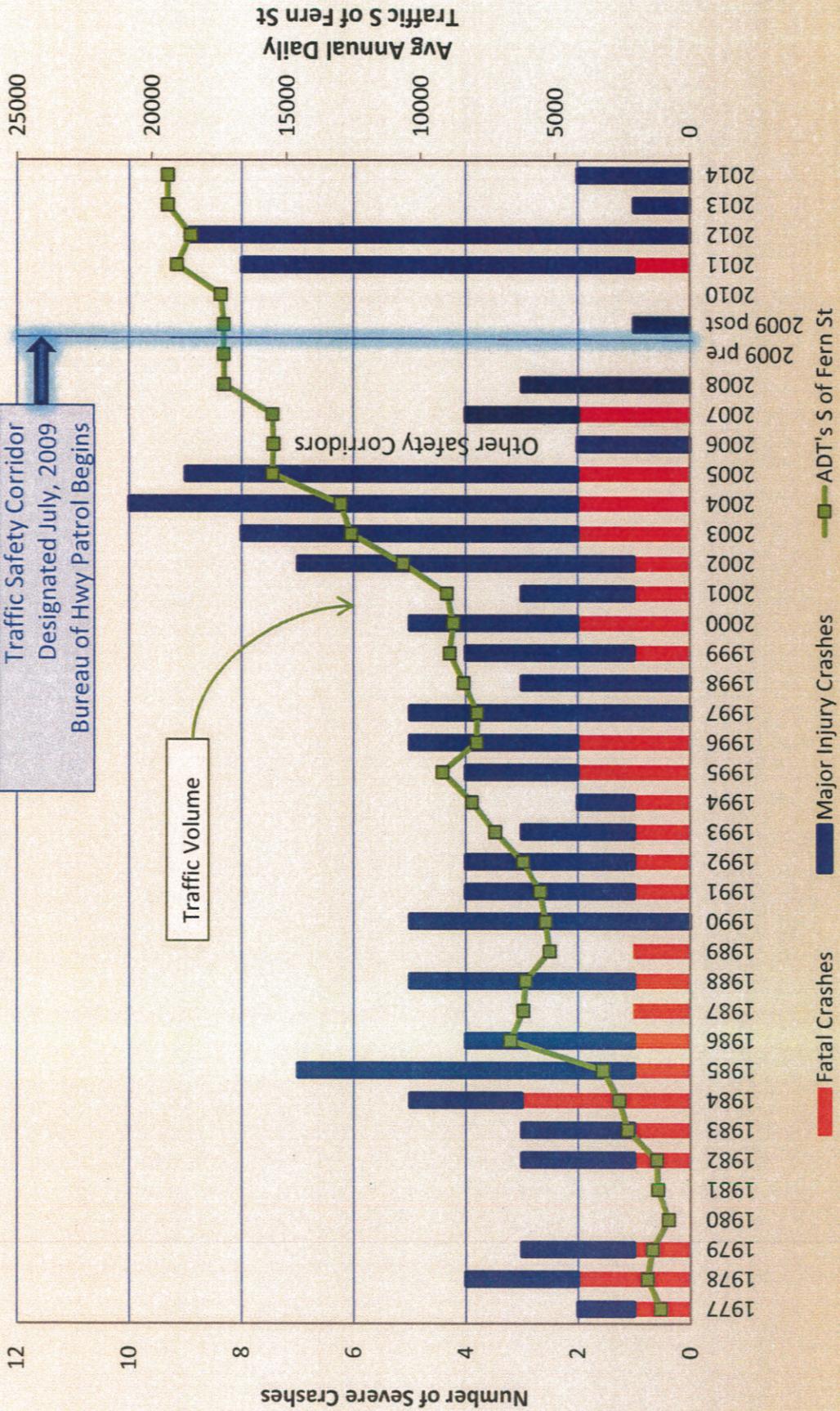
# Traffic Safety Corridors Combined Fatal & Major Injury Crashes: 1977-2014

(2013-2014 major injury crashes estimated until reports finalized)



# Knik/Goose Bay Road: PW Hwy to Pt. MacKenzie Rd Fatal & Major Injury Crashes: 1977-2014

(2013-2014 major injury crashes approximate)



Traffic Safety Corridor Designated July, 2009  
Bureau of Hwy Patrol Begins

Traffic Volume

Number of Severe Crashes

Avg Annual Daily Traffic S of Fern St

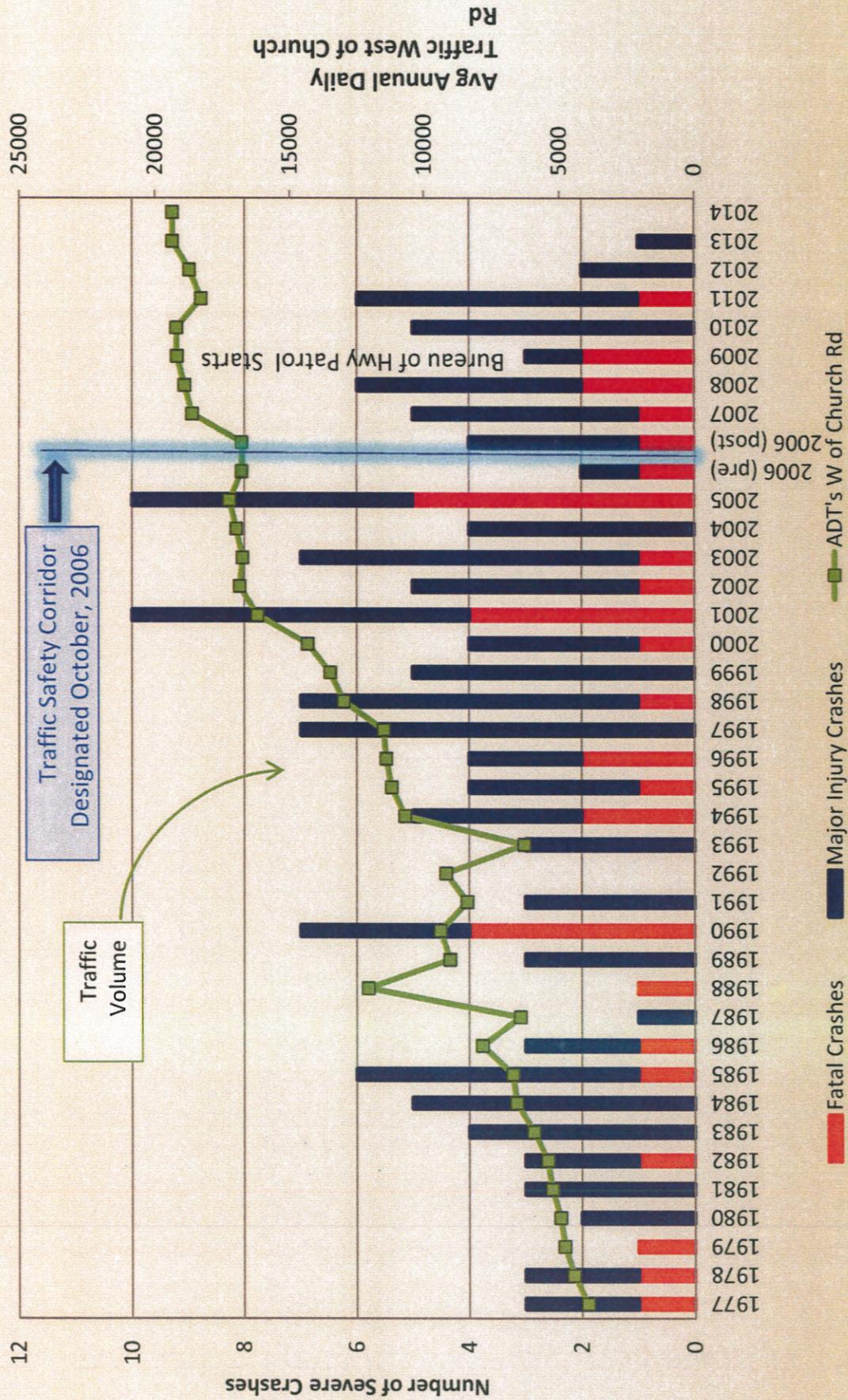
Fatal Crashes

Major Injury Crashes

ADT's S of Fern St

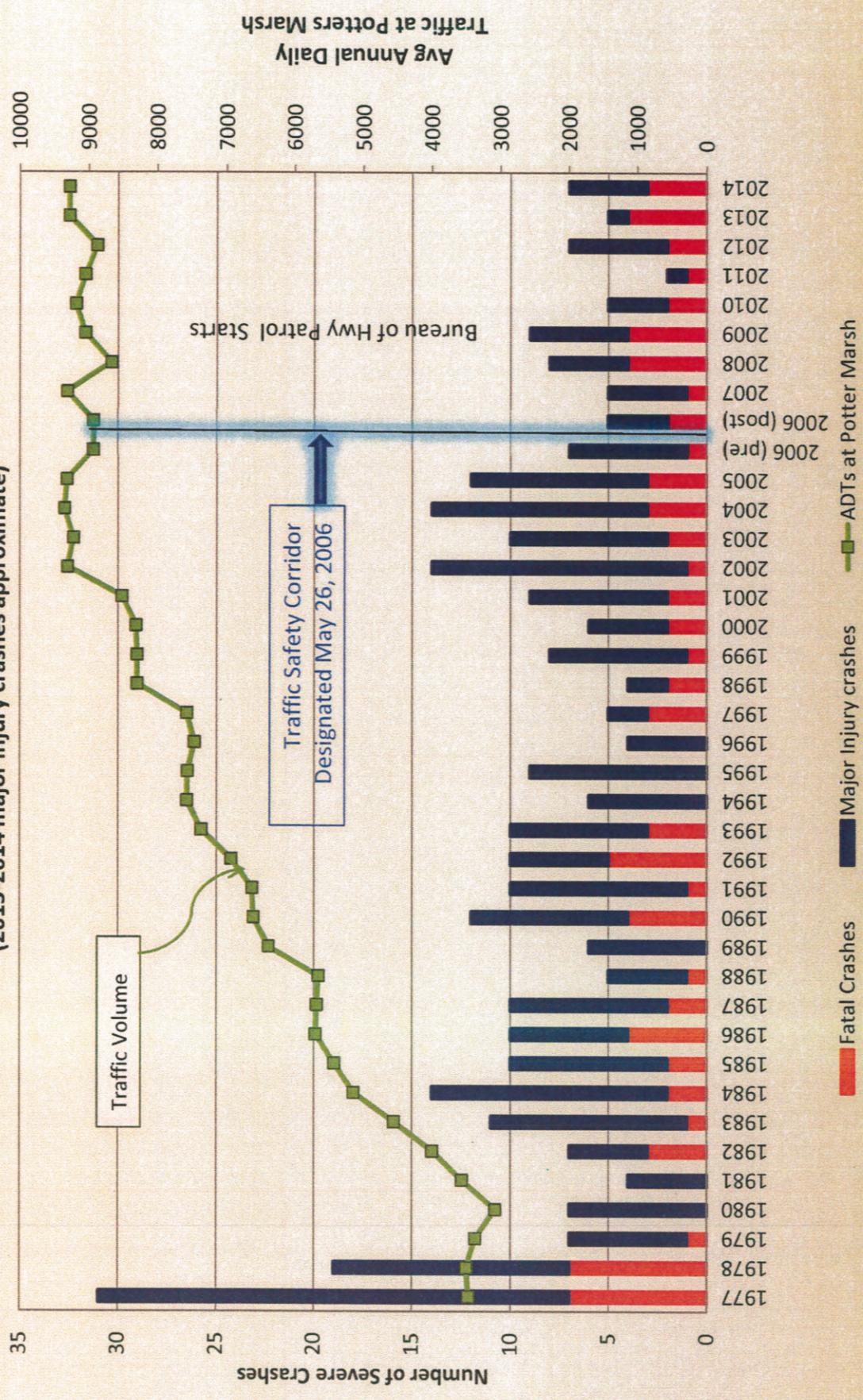
# Parks Highway Traffic Safety Corridor Fatal & Major Injury Crashes: 1977-2014

(2013-2014 major injury crashes approximate)



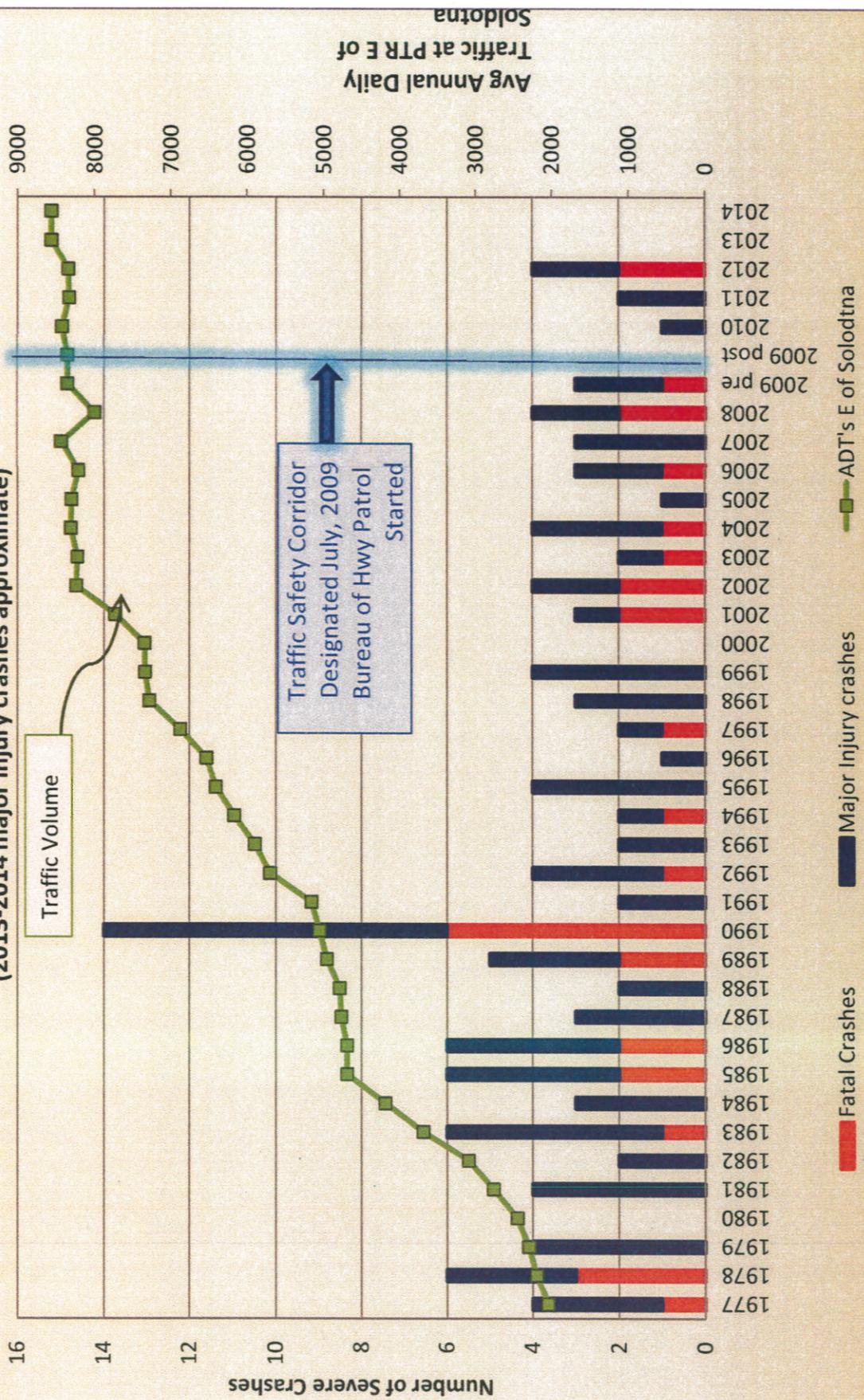
# Seward Highway Traffic Safety Corridor Fatal & Major Injury Crashes: 1977-2014

(2013-2014 major injury crashes approximate)



# Sterling Highway Traffic Safety Corridor Fatal & Major Injury Crashes: 1977-2014

(2013-2014 major injury crashes approximate)



Safety Corridor Candidate (Mileposts)	Investments, Planned funds from 2006 forward	Corridor Length (mi)	Investment plan per mile	Underfunded needs estimated	Underfunded need per mile
Seward Hwy MP 87-117	\$112,448,150	30.6	\$3,674,776	(\$277,305,200)	(\$9,062,261)
Parks Hwy MP 44-52.5	\$189,174,710	8.2	\$23,070,087	\$0	\$0
Knik-Goose Bay Rd MP 0.6-17.2	\$16,651,993	16.4	\$1,015,365	(\$98,749,000)	(\$6,021,280)
Sterling Hwy MP 83-93	\$11,968,978	9.8	\$1,221,324	(\$65,000,000)	(\$6,632,653)
<b>TOTAL</b>	<b>\$330,243,831</b>	<b>65</b>	<b>\$5,080,674</b>	<b>(\$441,054,200)</b>	<b>(\$6,785,449)</b>

AKSAS	Project	Scope	Solution	Funding Source Identified through STIP, GF (as of 2012)	Estimated Funding Shortfall, Planned Projects [UNDERFUNDED]	Construction
						Year (Est)
51218	HSIP MP 104-115 Seward Hwy Rut Repair	Hwy Safety Improvement Project: Rut repair, overlay to reduce head-on, SVROR crashes	Done	\$7,013,000	\$0	2008
51047	HSIP Central Region Rumble Strips, Phase II	Hwy Safety Improvement Centerline/shoulder rumble strips to reduce head-on, SVROR crashes	Done	\$315,000	\$0	2010
59838	HSIP Small SPOT Improvements	Signing for headlights, REDDI, Mileposts	Done	\$83,000	\$0	2011 Construction w/NHS Delin
51289	HSIP NHS Delineation	Curves, guardrail, roadside delineation, signing consistency on Parks, Glenn, Seward, Sterling Hwys.	Done	\$100,000	\$0	2011
52223	ITS Seward Hwy 2009	DMS Sign upgrades to LEDs at Potters Marsh	Done	\$90,000	\$0	2011 Constr w/CR Signal Upgrades
52491	Seward Hwy Rut Repair MP 115-124 (MP 104-117 in Safety Corridor)	Potter Valley Rd to Dowling Rd Paving and Guardrail	Done	\$3,214,000	\$0	2011
52991	Seward Hwy MP 89-96.6 Resurfacing	Girdwood to Bird. Repaving, signing, striping, guardrail replacement.	Done	\$8,980,000	\$0	2012
52121	HSIP MP 88 Curve Improvements	Guardrail removal, slope flattening	Done	\$1,165,011	\$0	2013
52451	HSIP Passing Lanes, Slow Vehicle Turnouts (Minor fill work)	NB passing lanes Ph I, Bertha Crk to Anchorage. Up to 17 opportunities.	Done	\$12,830,529	\$0	2013
53425	GF ITS Safety Corridors: Seward Hwy Speed Signs	Dynamic speed signs, power service and pads.	Constr	\$1,071,924	\$0	2013
55750	HSIP CR Guardrail Delineation Enhancements	Upgrades to high intensity web reflectors and to post top delineators on coasts	Done	\$288,894	\$0	2014
54619	GF Safety Corridors: Alyeska JCT Intersection Improvements	Split intersection into two directions, unsignalized. In preliminary layout phase.	Medium Term	\$7,594,800	(\$5,255,200)	2015
56631	MP 105-115 Rehabilitation	Passing lanes, sheep viewing turnout, hwy and railroad relocation.	Long Term	\$0	(\$62,950,000)	As funding is available
	Ph I: MP 104-107 Windy Corner GF		Short Term	\$42,950,000	(\$25,800,000)	2017 (Phase I)
58672	MP 99-104 Rehabilitation	Bird Point & Indian Improvements	Long Term	\$500,000	(\$25,800,000)	2016+
52784	Ph I: MP 99-100 Bird Pt - Bird	NB Bird Point to Bird Passing lanes (HSIP)	Short Term	\$9,244,992	\$0	2017 (Phase I)
57088	HSIP Traffic Safety Corridors Left Turn Lanes	Left turn lanes - Bird (Sawmill Rd) & Indian (Boretide Rd) Build w/Ph I MP99-100	Short Term	\$4,050,000	\$0	2017
58105	MP 75-90 Rehabilitation	Rehabilitation, pullouts, new bridges, passing lanes	Long Term	\$11,000,000	(\$157,500,000)	As funding is available
54250	Seward Hwy Route Development Plan	Long term vision for Seward Hwy to address traffic, safety, growth, and access	Medium Term	\$1,957,000	\$0	2015+
				\$112,448,150	(\$277,305,200)	TOTAL

Short Term = Interim Improvements 1-2 years

Medium Term = Permanent Improvements within 1-3 years in STIP

Long Term = Beyond committed or certain STIP funds, funds uncertain

KEY:

Completed since Safety Corridor

In Design

Under Construction

**SAFETY CORRIDOR EXPECTED DECOMMISSIONING PLAN: (for segments as road upgrades occur)**

MP 87-90	Consider Decommissioning due to HSIP MP 88 Curve improvements	2016
MP 90-99	Consider Decommissioning due to HSIP passing lane improvements	2016
MP 99-100	With passing lane improvements	2016-2017
MP 100-104	With improvements to be determined, possibly left turn lanes	2017-2018
MP 104-115	With passing lane improvements	Uncertain

AKSAS	Project	Scope	Solution	Funding Source Identified through STIP, GF	Estimated Funding Shortfall, Planned Projects [UNDERFUNDED]	Construction
						Year (Est)
51097	MP 44-52.3 Parks Hwy Rut Repair	M&O overlay repair Wasilla to Big Lake	Done	\$5,483,000	\$0	2008
53160	Parks & Vine Signal	Traffic signal installation	Done	\$1,200,000	\$0	2008
51047	HSIP Central Region Rumble Strips	Hwy Safety Imprvmt Proj: Centerline/shoulder rumble strips	Done	\$89,000	\$0	2010
59838	HSIP Small SPOT Improvements	Signing for headlights, REDDI, Mileposts	Done	\$55,000	\$0	2011
51289	HSIP NHS Delineation	Curves, guardrail, roadside delineation, signing consistency on Parks, Glenn, Seward, Sterling Hwys.	Done	\$100,000	\$0	2011
54453 & 53425	Parks & Stanley Signalization	New traffic signal and turn lanes	Done	\$3,023,037	\$0	2012 (Dec)
53425	Safety Corridors GF: Parks Hwy Speed Signs	Dynamic speed signs, power service and pads	Constr	\$287,248	\$0	2013
54602	Parks & Pittman Signal Modifications	Retrofit to allow for more efficient mainline operations	Done	\$205,000	\$0	2013
52914	MP 43.5-44.5 Reconstr. (Ph I)	Lucas Rd to Church Rd: Extend 5 Lane Section	Short Term	\$29,799,000	\$0	2014 (Phase I)
52929	MP 44.5-48.8 Reconstr. (Ph II)	Church Rd to Pittman Rd: Four Lane Divided Hwy	Short term	\$79,405,334	\$0	2015(Phase II)
54373	MP 48.8-52.3 Reconstr. (Ph III)	Pittman Rd to Big lake Rd: Four Lane Divided Hwy	Long Term	\$67,453,091	\$0	(Phase III) As funding is available
59273	Parks Hwy Multimodal Corridor Study	Plan for Parks Highway and possible alternate corridors	Medium Term	\$2,075,000	\$0	2015+
				\$189,174,710	\$0	TOTAL

Short Term = Interim Improvements 1-2 years

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Long Term = Beyond committed or certain STIP funds, funds uncertain

KEY:	Completed since Safety Corridor
	In Design
	Under Construction

SAFETY CORRIDOR EXPECTED DECOMMISSIONING PLAN: (for segments as road upgrades occur)		
MP 43.5-48.8	Recommended in 2015 upon completed divided highway construction	2015
MP 48.8-52.3	with divided highway construction	Uncertain

AKSAS	Project	Scope	Solution	Funding Source Identified through STIP, GF	Estimated Funding Shortfall, Planned Projects [UNDERFUNDED]	Construction Year (Est)
50951	KGB & Vine Rd Signalization GF	New Traffic Signal	Done	\$1,335,000	\$0	2009
50889	KGB & Fairview Lp Signal GF	New Traffic Signal	Done	\$1,300,000	\$0	2009
51047	HSIP Central Region Rumble Strips	Hwy Safety Improvement Project: Centerline / shoulder rumble strips	Done	\$174,000	\$0	2010
59838	HSIP Small SPOT Improvements	Signing for headlights, REDDI, Mileposts	Done	\$55,000	\$0	2011 Construction w/NHS Delin
53425	Safety Corridors: KGB Hwy Speed Signs GF	Dynamic speed signs, power service and pads.	Constr	\$574,495	\$0	2013-2015
51896	KGB & Fern St Signal & Turn Lanes GF (\$1.2M; City \$300k)	Traffic signal, left turn lanes, merge lane extension	Done	\$5,681,450	\$0	2013
55750	HSIP CR Guardrail Delineation Enhancements	Upgrades to high intensity web reflectors and to post top delineators on coasts	Done	\$31,048	\$0	2014
52464	KGB Widening MP 0.3-6.8: Centaur to Vine GF + FHWA	Separated 4 lane hwy with at-grade intersections Coordinating with S. Mack project.	Long Term	\$4,951,000	(\$73,549,000)	As funding is available
51717	KGB Widening MP 6.8-: Vine Rd - Settler's Bay GF + FHWA	Divided 4 lane hwy with at-grade intersections	Long Term	\$2,550,000	(\$25,200,000)	As funding is available
				\$16,651,993	(\$98,749,000)	TOTAL

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KEY:	Completed since Safety Corridor
	In Design
	Under Construction

**SAFETY CORRIDOR EXPECTED DECOMMISSIONING PLAN: (for segments as road upgrades occur)**

MP 1-6.8	upon completed multilane construction	2018?
MP 6.8-8	with divided highway construction	Uncertain

Cumulative Growth Impacts: Housing, Prison, Future Schools, Knik-Arm Crossing, Coal, Wood Resource extraction, Rail terminal

AKSAS	Project	Scope	Solution	Funding Source Identified through STIP, GF	Estimated Funding Shortfall, Planned Projects [UNDERFUNDED]	Construction Year (Est)
51046	Sterling Hwy Rut Repair, MP 90-94	Surface repaving from Soldotna to Forest Lane	Done	\$3,043,000	\$0	2009 Phase I
51047	HSIP Central Region Rumble Strips	Hwy Safety Improvement Project: Centerline/shoulder rumble strips	Done	\$105,000	\$0	2010
52493	Sterling Hwy Resurfacing, MP 82-90	Forest Lane to Sterling resurfacing, guardrail, signing, striping	Done	\$4,842,682	\$0	2011 (Phase II)
59838	HSIP Small SPOT Improvements	Signing for headlights, REDDI, Mileposts	Done	\$55,000	\$0	2011 Construction w/NHS Delin
51289	HSIP NHS Delineation	Curves, guardrail, roadside delineation, signing consistency on Parks, Glenn, Seward, Sterling Hwys.	Done	\$100,000	\$0	2011
53425	Safety Corridors: Sterling Hwy Speed Signs GF	Dynamic speed signs, power service and pads.	Constr	\$343,296	\$0	2013-2015
57088	HSIP Traffic Safety Corridors Left Turn Lanes	Left turn lanes - Jim Dahler Rd / Forest Lane, each direction	Short Term	\$1,750,000	\$0	2017-2018
54830	Safety Corridor Study	Sterling to Soldotna: Four lane options	Long Term	\$1,730,000	(\$65,000,000)	2015+
				\$11,968,978	(\$65,000,000)	TOTAL

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In Design
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