8 Recommendations and Implementation

A major objective of the IATP was to identify, evaluate and recommend future improvements to the transportation system to meet the transportation needs in Interior Alaska over the next 20 years. Transportation recommendations for Interior Alaska were analyzed for needs given safety issues, width, grade alignment, input from DOT&PF staff, user groups and the public and how well they meet established goals and objectives. Historical funding and financing options were also considered. These recommendations consider short term, (2010-2014), medium term, (2014-2019) and long term (2019-2029) projects.

8.1 Highway System Recommendations

Highway System recommendations include capital improvements as well as system-wide recommendations and specific actions on highways within the study area. They also include projects needed to support gas pipeline development.

8.1.1 Recommended Highway Capital Projects

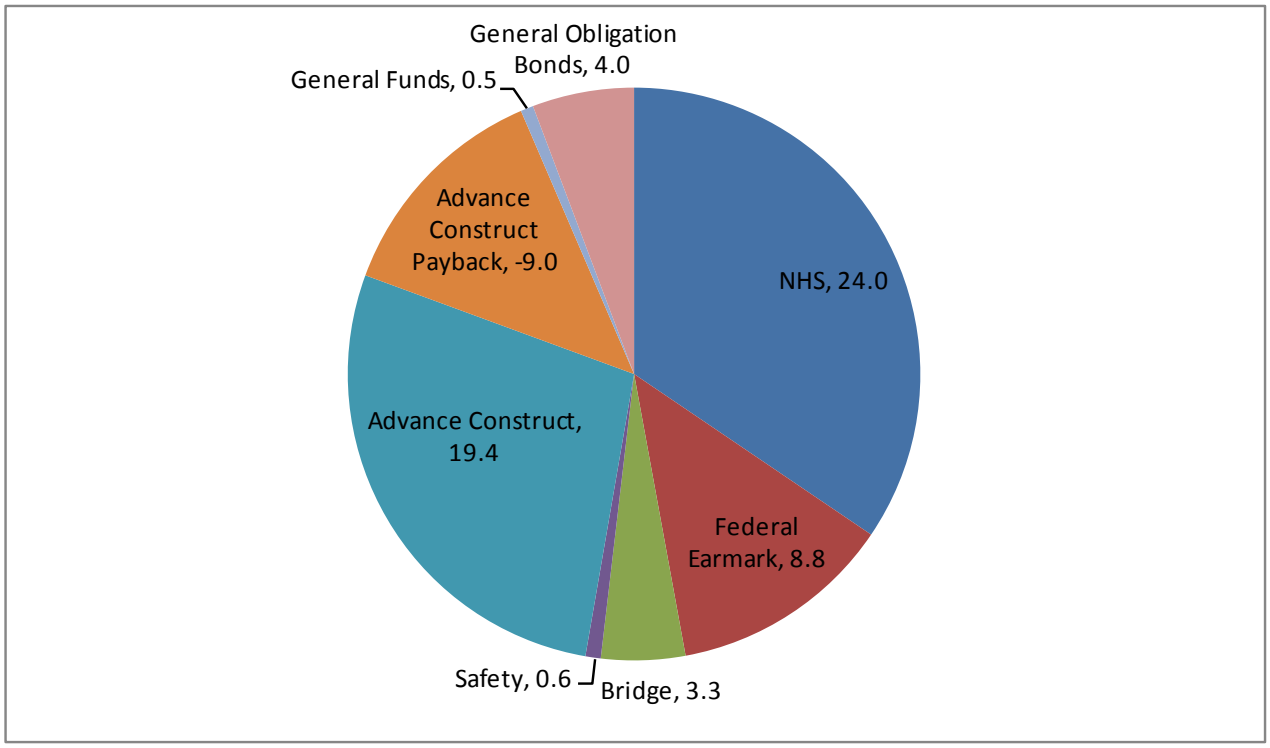
For planning purposes, certain assumptions must be made based on the best available data. An annual budget for projects within the study area is assumed to be approximately $45 million for highways and additional funding for bridges.[1] It is assumed that if the gas pipeline is developed, the program is likely to be accelerated and changed significantly. Lastly, it is assumed that the current financing options remain valid for the planning period.

The short term (2010-2014) highway projects include projects shown in the 2010-2013 STIP and one additional year's worth of projects. The short term program includes traditional funding mechanisms: NHS, STIP, general fund, bridge and safety funds as well as federal earmarks, advance construct funds, advance construct fund payback, and general obligation bond financing.

[1] Determining the likely amount of funding available for highways in each of the funding cycles (short, medium and long term) is made difficult due to the historical instability in the annual funding amounts, uncertainty of future earmarks and the unknown Federal-Aid highway funding that will be authorized by Congress in the next highway legislation.

Within the current STIP there is a significant amount of funding dedicated toward preventative maintenance projects (about $23 million annually). The average breakdown of annual funding sources for NHS routes in the study area in the 2010-2013 STIP is shown in Exhibit 8.1.

Exhibit 8.1 2010-2013 STIP Average Annual NHS Breakdown by Millions in Study Area



Many of the projects shown in the STIP have no funding for construction. Construction of these projects would require almost $250 million and include over $101 million in two bridge replacements (Slana and Tok River bridges on the Tok Cutoff) and one Railroad Overcrossing (Parks Highway MP 194 Broad Pass). The Dalton Highway also continues to require improvements to maintain the safe transportation needs of the primarily truck traffic associated with the Alaska oil and gas industry. There are also several large safety and preventative maintenance projects needed to maintain pavement life identified in the transportation analysis chapter that should be programmed as well as upgrades to the Northway, Manley, Nenana, Ernestine, Birch Lake and South Fork Maintenance Stations. A new maintenance station is needed at Antimony Creek on the Parks Highway MP181.

In summary, the transportation needs in the study area far exceed the likely amount of funding available and it is recommended that alternative funding mechanisms be sought. Additional projects not contained within the current short, medium and long term recommendations are shown in the illustrative list.

The program presented below seeks to balance preventative maintenance needs, which will continue to grow, the need to continue to make safety improvements and to rehabilitate roadways in Interior Alaska. Table 8-1 provides a listing of recommended capital improvement projects, their estimated costs, and priority levels.

Table 8-1 Recommended Highway Capital Improvements

Highway	Section	Project Type	Estimated Cost	Priority
Alaska Highway	MP 1309	Tok River Bridge Replacement #0506	$11,000,000	Short Term
Alaska Highway	MP 1354 - 1364	Rehabilitation (Jan Lake to Dot Lake)	$6,500,000	Medium Term
Dalton Highway	MP 0 - 9	Reconstruction (Livengood to 9 Mile Hill)	$40,000,000	Short Term
Dalton Highway	MP 09 - 11	Reconstruction - 9 Mile Hill North	$26,000,000	Short Term
Dalton Highway	MP 197 - 209	(Gold Creek to Dietrich)	$16,400,000	Short Term
Dalton Highway	MP 209 - 235	Reconstruction (Dietrich to Chandalar Shelf)	$2,000,000	Short Term
Dalton Highway	Various	Rehabilitation	$150,000,000	Long Term
Deferred Maintenance	Various	Deferred Maintenance	$60,000,000	Medium Term
Deferred Maintenance	Various	Deferred Maintenance	$120,000,000	Long Term
Elliott Highway	MP 0 - 12	Rehabilitation (Fox to Haystack)	$1,000,000	Short Term
Elliott Highway	MP 0 - 12	Rehabilitation (Fox to Haystack)	$26,500,000	Medium Term
Elliott Highway	MP 108 -120	Rehabilitation (Minto Jct. Area)	$9,300,000	Medium Term
Glenn Highway	MP 172 - 189	Rehabilitation - Tolsona River to Richardson Hwy. Jct.	$7,400,000	Short Term
Parks Highway	MP 113 - 163	Parks Highway Passing Lanes	$15,200,000	Short Term
Parks Highway	MP 163 - 185	Rehabilitation (NR Boundary to East Fork Chulitna)	$33,000,000	Medium Term
Richardson Highway	MP 148 - 159	Reconstruction - Sourdough to Haggard Creek	$26,000,000	Short Term
Richardson Highway	MP 201	Phelan Creek Bridge (#0579) Replacement	$2,500,000	Short Term
Richardson Highway	MP 228	One Mile Creek Bridge #0591	6,000,000	Short Term

Highway	Section	Project Type	Estimated Cost	Priority
Richardson Highway	MP 234	Ruby Creek Bridge #0594	$2,000,000	Short Term
Richardson Highway	MP 257 - 265	Reconstruction	$12,400,000	Short Term
Richardson Highway	MP 275.4	Tanana River Bridge Replacement #0524	$3,000,000	Medium Term
Richardson Highway	MP 65-74	Rehabilitation	$16,000,000	Medium Term
Safety Projects	Various	Safety Projects	$70,000,000	Long Term
Steese Highway	MP 062 - 81	Rehabilitation and Resurfacing	$7,000,000	Short Term
Taylor Highway	MP 70	Lost Chicken Slide	$5,000,000	Short Term
Taylor Highway	MP 95	Border	$10,700,000	Short Term
Tok Cutoff	MP 075.6	Slana River Bridge #0654 Replacement	$5,000,000	Short Term
Tok Cutoff	MP 104	Tok River Bridge (#0663)	$8,900,000	Short Term

Illustrative Projects. Federal regulation 23 CFR 450.216(l) states that:

> "for illustrative purposes, the financial plan may (but is not required to) include additional projects that would be included in the adopted long range statewide transportation plan if additional resources beyond those identified in the financial plan were to become available."

Illustrative projects are presented in the 2010-2013 STIP and should continue to be identified in subsequent STIPs. Illustrative projects are those that, while vital to the overall transportation system, cannot be funded within the expected annual funding amounts. It is recommended that they be advanced if sufficient funding becomes available or projects on the committed list are delayed. The additional projects below constitute the "illustrative" list of projects allowed in 23 CFR 450.216 paragraph (l).

The illustrative projects listed on Table 8-2 include safety, rehabilitation and bridge replacement projects. Not listed are all of the needed preventative maintenance projects which are generally identified annually or as pavement fails.

Table 8-2 Illustrative Projects

Highway	Location	Description	Cost
Dalton Highway	MP 144 - 175	Reconstruction and Enhancements. Heavy deferred maintenance, some crushing and material haul to be contracted out.	$7,000,000
Dalton Highway	MP 254 - 415	Install delineators between MP 254 to 415	$2,000,000
Dalton Highway		Permitting, development of material sites for upcoming Dalton projects.	$9,000,000
Richardson Highway	MP 065 - 75	Grind level and pave. Replace 3 culverts, widen 1000' of road from MP 72.5 to 72.7.	$20,000,000
Richardson Highway	MP 159 - 167	Widen and reconstruct to current standards (Hagard Creek to Gillespie Creek)	$24,600,000
Richardson Highway	MP 167 - 173	Widen and reconstruct to current standards. (Gillespie Creek to Dick Lake)	$1,000,000
Richardson Highway	MP 257 - 265	Widen and reconstruct between MP 257 and MP 265 (junction with Alaska Hwy). Replace Jarvis Creek Bridge.	$12,400,000
Richardson Highway	MP 276 - 286	Resurface the Richardson Hwy between MP 276 and 286 to support the construction of a natural gas pipeline.	$5,100,000
Taylor Highway	MP 82 - 95	Rehabilitate the Taylor Hwy between MP 64 and the Canadian Border	$11,500,000

Priority Gas Line Projects. Construction of the Alaska gas pipeline will require major repairs, reconstruction and bridge replacements on several highways in the study area. The total costs for all of these projects are anticipated to exceed $1 billion.[2] These projects are anticipated to take a minimum of six years to construct. Projects necessary to the gas line are listed in Table 8-3.

Table 8-3 Priority Gas Line Projects

Dalton/Elliott Highways
Elliott Highway MP 0-28 Rehabilitation (Fox-Wickersham)
Dalton Highway MP 0-37 Reconstruction (Livengood North)
Dalton Highway MP 49-56 Rehabilitation (Yukon River South)
Dalton Highway MP 56-90 Reconstruction (Yukon River – Finger Mountain)
Dalton Highway MP 90-144 Rehabilitation (Finger Mountain – Jim River 3)
Dalton Highway MP 209-235 Reconstruction (Dietrich – Chandalar Shelf)

[2] 070708 Special Session Gas Line Brief June 13, 2008, PowerPoint presentation.

Alaska/Richardson Highway
Richardson Highway MP 275 Tanana River Bridge #0524
Richardson Highway MP 276 – 306 Rehabilitation
Richardson Highway MP 306 – 335 Rehabilitation
Alaska Highway Tok River Bridge Replacement
Alaska Highway MP 1393 Gerstle River Bridge #0520
Alaska Highway MP 1381 Johnson River Bridge #0518
Alaska Highway MP 1235 – 1267 Rehabilitation (Seaton Roadhouse – Northway Jct.)
Alaska Highway MP 1314 – 1354 Rehabilitation
Alaska Richardson Highway Passing Lanes
Alaska/Richardson Highway Truck Rest Area Upgrades
Material Site Development
Gasline corridor design, permitting and material site development

8.1.2 Other Highway System Recommendations

Table 8-4 shows major recommendations for the Interior highway system. These recommendations do not include specific costs or priorities, but relate to administration actions by the DOT&PF.

Table 8-4 Other Highway System Recommendations

Recommended Action	Description
Implement pavement management system analytical capabilities	Provide ADOT&PF region staff with the analytical tools to support effective life cycle management.
Establish a level of service based approach to maintenance and operations planning and budgeting	Use the new maintenance quality assurance program to establish a measured relationship between the maintenance budget for specific maintenance activities and the level of service.
Continue to establish weight restrictions until base is capable of sustaining weights during critical thaw periods	Monitor progress of Parks Highway rehabilitation projects and lift weight restrictions when base is adequate

8.1.3 Recommended Highway Phasing Plan

The tables in this section divide the highway projects recommended in Table 8.1 into short, medium and long term phases. The tables also present the proposed allocation of the total cost among STIP and State funding. The assumed funding constraint is that the STIP will fund an average of $45 million per year in the study area, consistent with recent history. However, inflation will also affect costs, and all project costs are estimated in current year dollars. This phasing plan assumes the escalation of funding and costs will be the same.

Table 8-5, Table 8-6 and Table 8-7 show the total estimated cost of projects through 2029 is over $745 million. The State's share of project costs required to match federal program varies from 0 to 20 percent depending on the federal program requirements. Roughly, the state match is $25 million over the course of next twenty years.

Table 8-5 Short Term Highway Capital Improvements

Highway	Section	Total Cost	FHWA	State Costs
Alaska Highway				
Alaska Highway	MP 1222 - 1235	$20,174,400	$18,293,137	$1,881,263
Alaska Highway	MP 1309	$11,000,000	$9,974,250	$1,025,750
Dalton Highway				
Dalton Highway	MP 0 - 9	$40,000,000	$36,270,000	$3,730,000
Dalton Highway	MP 09 - 11	$26,000,000	$23,575,500	$2,424,500
Dalton Highway	MP 197 - 209	$16,400,000	$14,870,700	$1,529,300
Dalton Highway	MP 209 - 235	$2,000,000	$1,813,500	$186,500
Elliott Highway				
Elliott Highway	MP 108 - 120	$104,200	$94,483	$9,717
Glenn Highway				
Glenn Highway	MP 172 - 189	$7,400,000	$6,709,950	$690,050
Parks Highway				
Parks Highway	MP 113 - 163	$15,200,000	$13,782,600	$1,417,400
Parks Highway	MP 163 - 185	$1,000,000	$906,750	$93,250
Parks Highway	MP 194 Broad Pass	$400	$363	$37
Parks Highway	MP 251 to 262	$10,000,000	$9,067,500	$932,500
Richardson Highway				
Richardson Highway	MP 65 - 74	$1,000,000	$906,750	$93,250
Richardson Highway	MP 148 - 159	$26,000,000	$23,575,500	$2,424,500
Richardson Highway	MP 201	$2,500,000	$2,266,875	$233,125
Richardson Highway	MP 228	6,000,000	$5,440,500	$559,500

Highway	Section	Total Cost	FHWA	State Costs
Richardson Highway	MP 234	$2,000,000	$1,813,500	$186,500
Richardson Highway	MP 257 - 265	$12,400,000	$11,243,700	$1,156,300
Steese Highway				
Steese Highway	MP 062 - 81	$7,000,000	$6,347,250	$652,750
Taylor Highway				
Taylor Highway	MP 70	$5,000,000	$4,533,750	$466,250
Taylor Highway	MP 95	$10,700,000	$9,702,225	$997,775
Tok Cutoff				
Tok Cutoff	MP 075.6	$5,000,000	$4,533,750	$466,250
Tok Cutoff	MP 104	$8,900,000	$8,070,075	$829,925
	TOTAL	$238,229,000	$216,014,146	$22,214,854

Table 8-6 Medium Term Highway Capital Improvements

Highway	Section	Total Cost	FHWA	State Costs
Alaska Highway				
Alaska Highway	MP 1354 - 1364	$6,500,000	$5,893,875	$606,125
Dalton Highway				
Dalton Highway	MP 209-235	$58,000,000	$52,591,500	$5,408,500
Elliott Highway				
Elliott Highway	MP 0-12	$26,500,000	$24,028,875	$2,471,125
Elliott Highway	MP 108-120	$9,300,000	$8,432,775	$867,225
Parks Highway				
Parks Highway	MP 163-185	$33,000,000	$29,922,750	$3,077,250
Parks Highway	MP 194 Broad Pass	$25,200,000	$22,850,100	$2,349,900
Richardson Highway				
Richardson Highway	MP 275.4	$3,000,000	$2,720,250	$279,750
Richardson Highway	MP 65-74	$16,000,000	$14,508,000	$1,492,000
Deferred Maintenance				
Deferred Maintenance	Various	$60,000,000	$54,405,000	$5,595,000
	TOTAL	$237,500,000	$215,353,125	$22,146,875

Table 8-7 shows the projects anticipated to be needed in the ten-year period ending in 2029. The specific projects are not identified but are likely to include projects from the Illustrative list and various deferred maintenance projects, yet to be identified.

Table 8-7 Long Term Highway Capital Improvements

Highway	Section	Total Cost	FHWA	State Costs
Dalton Highway				
Dalton Highway	Various	$150,000,000	$136,012,500	$13,987,500
Deferred Maintenance				
Deferred Maintenance	Various	$120,000,000	$108,810,000	$11,190,000
Safety				
Safety Projects	Various	$70,000,000	$63,472,500	$6,527,500
	TOTAL	$270,000,000	$244,822,500	$25,177,500

8.2 Community Transportation Recommendations

8.2.1 Recommended Community Transportation Capital Projects

As stated previously, this study does not focus on community road issues; however there are several projects with regional significance. These include the continued development and expansion of the Copper Valley Transit program, the Nenana Totchakat Road, a road from the Dalton Highway to Stevens Village and potentially a bridge across the Copper River in the Tazlina area to access resources, as listed in Table 8-8. In addition, community roads will need to be constructed for new subdivision, landfill, and sanitation facility access. Local roads will continue to require dust control and trail staking projects will continue to be important.

Table 8-8 Community Transportation Project Recommendations (Short, Medium and Long Range Projects with costs)

Project	Description	Estimated Cost	Priority
Copper Basin/Upper Tanana Transit Program	Develop and expand transit services in the Interior	$500,000	Short
Stevens Village Access Road, Phase I - Trail	Construct Trail to Stevens Village as phase I of Road Access project	$500,000	Short
Stevens Village Access Road, Phase II - Road	Construct Road to Stevens Village as phase II of Road Access project	$35,000,000	Long
Nenana Totchakat Road	Design Road	$1,500,000	Medium
Nenana Totchakat Road	Road Construction	Unknown	Long
Glennallen/Tazlina Bridge to Timber	Conduct Bridge Feasibility Study	$400,000	Short

A phasing plan for the projects listed in Table 8-8 would be difficult to develop beyond the general priority indications included in the table. Impediments to funding these projects include, but are not limited to, changes in the Highway Trust Fund, political considerations, and the general state of the economy.

Table 8-9 includes recent federal grants administered to tribal governments in the study area. The study area communities successfully completed a Transit Feasibility Study in June 2009 that has become a road map for how to plan for and implement additional transit opportunities in the study area.

Table 8-9 FFY 2010 Transit Grants

	2010 Transit Grants		
Tribe	**ARRA Funds**	**FTA Funds**	**TOTAL**
Manley Village Council	$140,000	$127,730	$267,730
Tetlin Tribe	$120,000	$216,470	$336,470
Gwichyaa Zhee Gwich'in Tribal Government (Fort Yukon)	N/A	$25,000	$25,000
Gulkana Village	N/A	$288,500	$288,500
TOTAL	**$260,000**	**$657,700**	**$917,700**

8.3 Aviation System Recommendations

Aviation system recommendations include capital improvements as well as system-wide and airport-specific actions. These recommendations result from the aviation system analysis in Chapter 6. Fairbanks International Airport is excluded from the recommendations.

8.3.1 Recommended Airport Capital Improvements

Table 8-10 presents the capital improvements recommended, along with estimated costs in current year dollars and priority. Table 8-10 does not include the procurement of snow removal and other equipment, small passenger shelters and minor upgrades to snow removal equipment buildings, maintenance and deferred maintenance projects, and the construction of hangars and other privately funded facilities on leased airport property.

The total cost of projects in Table 8-10 is approximately $185 million. Most of the projects are for DOT&PF-owned airports ($157 million) and most are eligible for Federal AIP grants up to 95 percent.

Nenana Municipal and Venetie Airports are NPIAS sponsors, and are qualified to receive AIP funds. The FAA provides 95 percent of project costs and local sponsors and the DOT&PF each put up 2.5 percent as match.

Delta Junction Airport is not in the NPIAS and cannot participate in the AIP; however, the City could probably qualify as a NPIAS sponsor. Table 8-10 recommends investments for which AIP funding would be critical.

There is a need for a new Pippin Lake/Tonsina airport on the Richardson Highway. Such an airport would not be a good candidate for inclusion in NPIAS since that would require maintaining the airport through the winter, when use of the facility would be very low. DOT&PF might consider acquiring land and protecting the airspace for an airport to meet this need in the future. Then, if necessary, a local sponsor may be found for construction and ownership in the long term. There are existing private airstrips in the area that may be good candidates for future use as public facilities.

The highest cost capital improvement in Table 8-10 is for a Regional airport in the Tok/Tanacross area ($35 million estimated, including $7 million shorter term improvements planned for the Tok Junction Airport). The first step in this project would be a study to determine if existing airports at Tok Junction or Tanacross, or a new site would serve best. While the study could be accomplished in the short-term future, implementation will not likely occur until the long-term future, due to the high funding level and the time required for environmental processing and land acquisition.

The next highest cost ($16 million) is for a Regional airport at Fort Yukon. Most of the Fort Yukon project is funded by economic stimulus money in FFY 2009.

Third in cost ($15 million) is for a Regional airport at Gulkana. Most of the cost is for improvements that will not be needed in the short-term.

Table 8-10 Recommended Airport Capital Improvements

Airport	Description	Estimated Cost	Priority
Beaver	Resurfacing, grading, drainage.	$5,000,000	Medium
Birch Creek	Instrument approach (1 mile min.), SRE Building, resurfacing.	$3,000,000	Medium
Central	700' runway extension, instrument approach (1 mile min.), AWOS, obstruction removal, resurfacing.	$2,500,000	Medium, Long
Chalkyitsik	Reconstruction, apron, road relocation, lighting rehab, drainage, SRE Building.	$10,500,000	Short, Medium
Chistochina	Airport relocation.	$10,000,000	Long
Chitina	SRE Building upgrade.	$150,000	Medium
Circle City	400' runway extension, instrument approach (1 mile min.), taxiway and apron rehab, resurfacing.	$5,000,000	Long
Coldfoot	Erosion control, lighting replacement, obstruction clearance, resurfacing.	$6,500,000	Medium, Long
Dalton-5 Mile	Airport Reconnaissance for gas pipeline support	$1,000,000	Long
Delta Junction*/Allen Army Airfield*	Joint civilian/military use or better, NPIAS airport recommended. Cost could be $2 - $20 million.	$11,000,000	Short, Medium
Eagle	Instrument approach (1 mile min.), resurfacing.	$3,500,000	Long
Fort Yukon	Instrument approach Improvement to 3/4 mile min., resurfacing, safety area improvements, drainage, and SRE building.	$15,550,250	Short (FFY 2009)
Gold King Creek	Modest Safety Improvements	$50,000	Short, Medium
Gulkana	Instrument approach improvement to 3/4 mile min. requiring approach lights, parallel taxiway, airfield repaving, floatplane basin.	$15,000,000	Medium, Long
Lake Louise	2nd stage of runway rehab.	$2,300,000	Short (FFY 2009/FFY 2010)
Livengood Camp	Improvements for gas pipeline support TBD.	$3,000,000	Medium
Manley Hot Springs	Airport relocation.	$13,800,000	Short (FFY 2010)
McCarthy	Instrument approach (1 mile min.), MIRL, AWOS, resurfacing.	$3,500,000	Long
Minchumina	Resurfacing, apron reconstruction	$8,000,000	Long

Airport	Description	Estimated Cost	Priority
Nenana Municipal*	Airfield pavement rehab, fencing, other improvements	$12,000,000	Medium, Long
Pippin Lake/Tonsina New Airport*	New Local-Major airport, turf runway, visual approaches, serving small A-I aircraft	$2,000,000	Long
Prospect Creek	Runway Safety Area Improvement, resurfacing, improvements for gas pipeline support.	$5,600,000	Medium, Long
Rampart	SRE Building upgrade, resurfacing.	$3,500,000	Medium, Long
Stevens Village	Instrument approach (1 mile min.), resurfacing.	$3,500,000	Long
Summit	Tiedown, access road improvements.	$100,000	Medium
Tetlin	Instrument approach (1 mile min.)	$450,000	Medium, Long
Tok Junction/ *Tanacross**	More runway length and better instrument approach. Recommend upgrades for Tok Junction, Tanacross, or another site for Regional Airport to serve Tok population. Improvements to support gas pipeline TBD. Tok Junction has $7 mil runway & crosswind runway project programmed after FFY2012.	$35,000,000	Medium, Long
Venetie*	Instrument approach (1 mile min.), AWOS, resurfacing.	$3,000,000	Medium

**Airports listed in italics are not owned by the DOT&PF*

Note: The FAA funds instrument approaches from a different source than the AIP. Costs for instrument approaches listed in this table are for aeronautical surveys and obstruction removal.

8.3.2 Other Aviation System Recommendations

Table 8-11 shows major recommendations for the Interior aviation system. These recommendations do not include specific costs or priorities, but relate to administration actions by the DOT&PF and other aviation system stakeholders.

Table 8-11 Other Aviation System Recommendations

Recommended Action	Airport(s)/Description
Add to Regional Airport Classification:	Tok/Tanacross area airport.
Remove from Regional Airport Classification:	Nenana Municipal.
Remove from Community Airport Classification:	Boundary, Chandalar Lake, Chicken, Chisana, and Rampart.
Recommend the FAA consider adding to the NPIAS:	Airports serving North Pole, Delta Junction, and the Tok/Tanacross region; relocated Chistochina Airport.

Recommended Action	Airport(s)/Description
Recommend the FAA consider removing from the NPIAS:	Porcupine Creek and Wiseman.
Protect vulnerable airports from closure and plan for emergency access:	Especially important for precautionary landings are McKinley National Park, Paxton, and Hoodoos. The DOT&PF and other public agencies should work to protect backcountry airstrips and plan for emergency access to Interior communities in case of disaster.
Register airport and perform FAA 5010 inspection:	Healy Lake
Support major economic development by improving airports:	Monitor needs to support gas pipeline construction, tourism, and mining. If needs are not long-term, consider a different funding source than AIP, since AIP requires a long-term maintenance commitment. Consider project cost vs. benefit in making case-by-case decisions.
Recommend additional weather camera locations to the FAA:	Birch Creek, Circle City, McCarthy, Minto, Stevens Village, Tetlin, and Venetie in addition to 15 locations already programmed by the FAA.
Work with USPS and air carriers in the designation of postal hubs:	Cooperation is needed to avoid overbuilding infrastructure. Fort Yukon is designated a postal hub although no carrier provides mainline service there now. Support the use of Fort Yukon as an Interior postal hub instead of a Community airport with inadequate infrastructure.
Improve security appropriate to threat and airport role:	In addition to meeting TSA requirements for passenger and cargo service, Regional airports and busier airports in other classifications that serve large airplanes should have access control for aircraft operating areas.
Work with the military to mitigate training impacts:	The DOT&PF should actively participate in technical subcommittees of the Alaska Civil-Military Aviation Council to ensure changes in military airspace and training will not restrict commercial and general aviation too severely, resulting in negative economic impacts on Interior residents.

8.3.3 Recommended Aviation Project Phasing

The tables in this section divide the aviation projects recommended in Table 8-10 into short, medium and long term phases. The tables also present the proposed allocation of the total cost among three funding sources—Federal AIP, State, and Local (airport owners other than DOT&PF). The assumed funding constraint is that the AIP will fund an average of $9 million per year in the study area, consistent with recent history. In reality, AIP funding will likely

increase to account for inflation. However, inflation will also affect costs, and all project costs are estimated in current year dollars. This phasing plan assumes the escalation of funding and costs will be the same.

Table 8-12, Table 8-13, and Table 8-14 show that the total estimated cost of projects through 2030 is $195 million, with 92 percent funded by AIP ($179.6 million), 7.5 percent funded by the State ($14.5 million), and 0.5 percent funded by Local airport owners ($900,000). For airports in the NPIAS or assumed to be added to the NPIAS prior to project implementation, the project costs are allocated 95 percent AIP, 2.5 percent State, and 2.5 percent Local Sponsor. For State-owned airports, the State allocation is 5 percent.

The short-term projects in Table 8-12 include those programmed in the latest AIP spending plan, plus a project for Delta Junction. The City of Delta Junction has not specifically made this project request, nor is the airport at Delta Junction now listed in the NPIAS, so it is not eligible for AIP funds currently. The project would be the first stage of Delta Junction airport improvements, which would consider the options of joint use with Allen Army Airfield, improvement at the current airport site, or a new airport site. The project cost would cover an initial planning study, environmental documentation, and other work such as design, land acquisition, and/or geotechnical investigation.

Table 8-12 Short-Term Airport Capital Improvements

Airport	Total Cost	AIP	State	Local
Chalkyitsik	$10,500,000	$9,975,000	$525,000	$0
Fort Yukon	$15,550,250	$15,000,000	$550,250	$0
Lake Louise	$2,300,000	$2,185,000	$115,000	$0
Manley Hot Springs	$13,800,000	$13,110,000	$690,000	$0
Delta Junction – Stage I	$1,000,000	$950,000	$25,000	$25,000
Total	$43,150,250	$41,220,000	$1,905,250	$25,000

Table 8-13, the medium-term capital improvement projects, includes the second stage of City of Delta Junction improvements at the site selected in the first stage. Improvements for Nenana Municipal are assumed to be phased between the medium- and long-term timeframes, based upon their need. Tok is also assumed to have staged improvements. The medium-term project listed for Tok is the $7 million runway improvements for Tok Junction Airport that are depicted on its Airport Layout Plan. Depending upon the gas line and other factors, the project may be

spent on a site selection study and initial improvements for a Regional class airport to serve the Tok/Tanacross area at Tok Junction Airport, at Tanacross Airport, or at a new site. The other projects listed in Table 8-13 are for DOT&PF-owned airports, except for Venetie Airport, which is assumed to need resurfacing by that time. Summit is a DOT&PF airport that is not in the NPIAS. If privately owned Cantwell Airport should close or deteriorate, Summit may need to be included in the NPIAS and have more extensive improvements than programmed in Table 8-13. Gold King Creek is also a DOT&PF airport that is not in the NPIAS.

Table 8-13 Medium-Term Airport Capital Improvements

Airport	Total Cost	AIP	State	Local
Beaver	$5,000,000	$4,750,000	$250,000	$0
Birch Creek	$3,000,000	$2,850,000	$150,000	$0
Chitina	$150,000	$142,500	$7,500	$0
Coldfoot	$3,500,000	$3,325,000	$175,000	$0
Delta Junction - Stage II	$10,000,000	$9,500,000	$250,000	$250,000
Gold King Creek	$50,000	$0	$50,000	$0
Gulkana	$5,000,000	$4,750,000	$250,000	$0
McCarthy	$1,000,000	$950,000	$50,000	$0
Nenana Municipal - Stage I	$4,000,000	$3,800,000	$100,000	$100,000
Prospect Creek	$5,600,000	$5,320,000	$280,000	$0
Rampart	$3,500,000	$3,325,000	$175,000	$0
Summit	$100,000	$0	$100,000	$0
Tetlin	$450,000	$427,500	$22,500	$0
Tok - Stage I	$7,000,000	$6,650,000	$350,000	$0
Venetie	$3,000,000	$2,850,000	$75,000	$75,000
Total	$51,350,000	$48,640,000	$2,285,000	$425,000

Table 8-14 shows the projects anticipated to be needed in the ten-year period ending in 2030. The Pippin Lake/Tonsina New Airport would be a public use, seasonal general aviation facility to serve a growing, but unorganized population along the Richardson Highway. It is assumed that the DOT&PF would be the sponsor—probably through acquisition of an existing privately owned airport. The new airport would not be in the NPIAS.

The Chistochina project would be the relocation of the existing airport from immediately next to the Tok Cutoff Highway. The second stage of the Tok project would be to finish developing a Regional class airport in the Tok/Tanacross region. The 5-Mile and Livengood Camp projects would be needed only for gas pipeline support and would not be AIP-funded.

Table 8-14 Long-Term Airport Capital Improvements

Airport	Total Cost	AIP	State	Local
5-Mile	$1,000,000	$0	$1,000,000	$0
Central	$2,500,000	$2,375,000	$125,000	$0
Chistochina	$10,000,000	$9,500,000	$500,000	$0
Circle City	$5,000,000	$4,750,000	$250,000	$0
Coldfoot	$3,000,000	$2,850,000	$150,000	$0
Eagle	$3,500,000	$3,325,000	$175,000	$0
Gulkana	$10,000,000	$9,500,000	$500,000	$0
Livengood Camp	$3,000,000	$0	$3,000,000	$0
McCarthy	$2,500,000	$2,375,000	$125,000	$0
Minchumina	$8,000,000	$7,600,000	$400,000	$0
Nenana Municipal-Stage II	$8,000,000	$7,600,000	$200,000	$200,000
Pippin Lake/Tonsina New Airport	$2,000,000	$0	$2,000,000	$0
Stevens Village	$3,500,000	$3,325,000	$175,000	$0
Tok - Stage II	$28,000,000	$26,600,000	$1,400,000	$0
Total	$90,000,000	$79,800,000	$10,250,000	$200,000

8.4 Trail Recommendations

One trail recommendation discussed previously was for a pioneer trail to precede road development from Stevens Village to the Dalton Highway. Other recommendations are discussed below.

8.4.1 Recommended Trail System Capital Projects

Trail marking is one of the most pressing needs for capital projects in the study area. The list in **Error! Reference source not found.** includes marking over 300 miles of trail between villages. Examples include the 50 mile trail between Manley and Minto or the 20 miles trail between Birch Creek and Fort Yukon.

8.4.2 Recommended Phasing Plan

The local communities should set their priorities in cooperation with local IRR program, State, and any other funding source agency. These priorities should reflect a logical phasing for trail marking or construction. Recommended criteria for prioritizing trail system projects include:

- Trail mark areas that have a poor safety record;
- Give priority to trails to subsistence resources; and

- Give priority to trails that provide intermodal connections.

8.5 Railroad Recommendations

The Alaska Railroad plans its capital projects to meet regional and system-wide needs. It would likely be beneficial to have a more formal coordination process between ARRC and DOT&PF, such as exists with FMATS, to coordinate projects and priorities within the study area.

The railroad website has a list of projects in varying phases of development. Some of these projects are yearly activities such as track rehabilitation. Many of the larger projects have required extensive environmental documentation and are very expensive. The Alaska Railroad intends to proceed with projects as funding becomes available.

8.5.1 Recommended Railroad Capital Projects

The Alaska Railroad maintains current lists and descriptions of projects on their website at http://www.akrr.com/arrc14.html. Recommended criteria for projects include:

- Addressing health and safety issues (such as grade separation projects);
- Supporting regional economic development; and
- Benefiting the multi-modal transportation system on an area-wide basis.

8.5.2 Recommended Railroad Phasing Plan

The Alaska Railroad should proceed with projects according to their own system of prioritization and as funding permits, coordinating with ADOT&PF.

8.6 River Transportation System Recommendations

Many interior communities are on the road system and not accessible to barge service. Nenana is a unique community that has road, barge and rail access. Fort Yukon is the only other community in the study area that gets regular barge service.

8.6.1 Recommended Major River System Capital Projects

Nenana is implementing a sheet pile project for shore protection and would like to do other shore protection at the harbor. They also desire to build a new marine dock. Proposed costs are not available for these projects.

Fort Yukon would benefit from an improved barge landing placed where there is access to the surface transportation system. One of the two sites available for landing requires loads to cross private land for a fee. Tanana is in need of a new barge landing and other communities that get less frequent barge service would also benefit from improvements to landings. As stated in Section 6.6.1.3, "deadman" style anchor bolts in the rivers would assist in landing and off loading.

8.6.2 Recommended Phasing Plan

It would not be prudent to develop a phasing plan for a list of recommended barge landing projects that are unfunded and where possible funding sources are not identified. As stated previously, funding for river system capital projects is limited. Nenana and Tanana should continue to pursue funds through the state and construct barge landing and harbor dock improvements throughout the planning period as funding becomes available. The state should also pursue funding for design of barge landing improvements in Fort Yukon in the short term and construction of recommended improvements in the medium term. Other minor improvements to river landings should be on-going as funding allows.