Executive Summary

This 2010 General Aviation System Needs Assessment Element (GASNA) updates the 2003 Systems Requirement Element (SRE). It continues the recommendation and prioritization of unfunded safety, capacity and capability projects at primarily General Aviation (GA) airports. California has a system of 249 public use airports, approximately 30 of which are commercial service airports. All told, these airports make California a dynamic environment for the positive economics that come with a cooperative system of airports working together. To that end, the GASNA informs airport operators and local governments of State recommended (priority) improvement projects that would benefit the overall aviation system.

To affect priority project recommendations and estimate the associated costs, this edition of the GASNA uses two priority rankings for airport projects, either Priority 1 or 2 for the Federal Aviation Administration's (FAA) National Plan of Integrated Airports Systems (NPIAS) airports, or Priority A or B for non-NPIAS airports. Given the limited funding available for airport improvements, the State's recommended highest priority is generally given to system-wide safety and capacity enhancing projects before recommending regional then local projects.

Recommending system improvements requires a brief look at Primary Commercial Service Hub airports and their capacity issues. It is generally accepted that combined commercial service activities (typically passenger aircraft movements) and GA activities have a limiting effect on how well commercial service airports operate and grow. As an commercial service airport reaches its operational capacity to efficiently accommodate both activities, Reliever airports are called upon to help reduce operational pressures. While other factors can also limit the operations and growth of airports such as noise, incompatible land use encroachment around airports or environmental issues, the GASNA does not address these issues. Thus the GASNA looks at commercial service capacity issues only to the extent that project recommendations can be included at Reliever airports.

Once operational and system needs were evaluated, the data was tabulated along with associated cost estimates. Recommended improvements to all public use airports in the State could cost in excess of $270,000,000 over a multi-year period, as shown in Table E-1 and are graphically represented in Figure E-1. This is roughly a 225 percent increase over improvement costs estimated in the 2003 SRE. The most notable reason for this increase is that few airports actually get the recommended improvements completed in a timely manner. Those that defer or experience implementation delays commonly experience increased costs for maintenance and upgrades, sometimes exponentially, such is often the case with runway projects. With some airport improvement funding programs suspended due to budget constraints, this trend is not expected to substantially improve in California over the near term. Stewardship towards maintaining the investments of previous generations in our air transport system is a paramount goal of the Department.

Table E-1
All GA Airports Project Cost Estimate Comparisons (2010 GASNA : 2003 SRE)

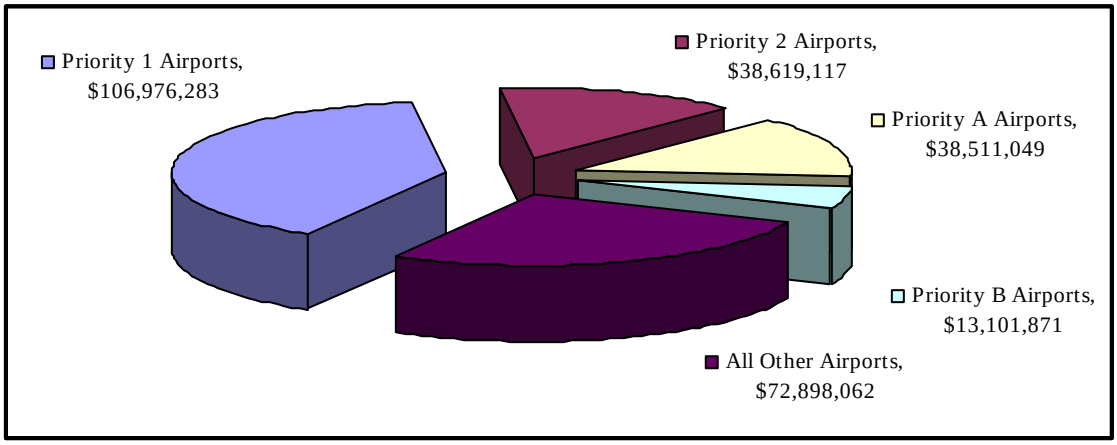
Airport Improvement Costs Estimate to Meet Minimum Standards (2003 CASP, System Requirements Element)

	Runway Improvement Estimates			Other Desirable Airport Safety Attributes			
Caltrans Aeronautics Nine Planning Regions	**Extension Cost**	**Width Cost**	**Pavement Condition Cost**	**Visual Approach Cost**	**Automated Weather Services Cost**	**Fuel Services Cost**	**Airport Project Costs Estimate Total**
1	$5,390,000	$1,190,000	$2,960,000	$420,000	$200,000	$1,550,000	**$11,710,000**
2	$7,220,000	$5,530,000	$2,410,000	$660,000	$400,000	$200,000	**$16,420,000**
3	$2,140,000	$2,120,000	$5,200,000	$300,000	$700,000	$300,000	**$10,760,000**
4	$660,000	$1,500,000	$0	$60,000	$300,000	$100,000	**$2,620,000**
5	$2,050,000	$240,000	$2,470,000	$60,000	$400,000	$150,000	**$5,370,000**
6	$7,460,000	$10,730,000	$8,110,000	$1,440,000	$1,600,000	$1,750,000	**$31,090,000**
7	$3,760,000	$1,460,000	$910,000	$300,000	$400,000	$200,000	**$7,030,000**
8	$5,500,000	$7,050,000	$15,170,000	$660,000	$2,100,000	$550,000	**$31,030,000**
9	$1,730,000	$110,000	$1,880,000	$180,000	$300,000	$50,000	**$4,250,000**
Statewide Total	**$35,910,000**	**$29,930,000**	**$39,110,000**	**$4,080,000**	**$6,400,000**	**$4,850,000**	**$120,280,000**

Airport Improvement Costs Estimate to Meet Minimum Standards (2010 SNA)

	Runway Improvement Estimates			Other Desirable Airport Safety Attributes			
Caltrans District	**Extension Cost**	**Width Cost**	**Pavement Condition**	**Visual Approach Cost**	**Automated Weather Services Cost**	**Fuel Services Cost**	**Airport Project Costs Estimate Total**
1	$10,714,653	$5,679,322	$4,745,654	$600,000	$1,300,000	$1,250,000	**$24,289,630**
2	$16,161,946	$16,714,423	$12,766,039	$780,000	$2,000,000	$1,400,000	**$49,822,407**
3	$8,948,654	$8,894,485	$5,066,402	$360,000	$1,500,000	$700,000	**$25,469,541**
4	$8,766,468	$6,876,210	$2,701,223	$300,000	$800,000	$400,000	**$19,843,901**
5	$6,197,802	$221,100	$1,742,268	$120,000	$500,000	$200,000	**$8,981,170**
6	$10,885,932	$18,594,326	$10,258,518	$840,000	$2,500,000	$1,150,000	**$44,228,776**
7	$1,751,481	$8,110,685	$508,662	$60,000	$600,000	$250,000	**$11,280,828**
8	$16,865,309	$7,506,345	$6,344,877	$540,000	$1,100,000	$700,000	**$33,056,531**
9	$8,135,227	$4,429,370	$2,369,459	$300,000	$400,000	$500,000	**$16,134,057**
10	$8,044,392	$2,390,000	$5,099,267	$240,000	$800,000	$550,000	**$17,123,659**
11	$6,854,469	$4,172,931	$7,568,484	$180,000	$500,000	$600,000	**$19,875,883**
12	$0	$0	$0	$0	$0	$0	**$0**
Statewide Total	**$103,326,331**	**$83,589,196**	**$59,170,854**	**$4,320,000**	**$12,000,000**	**$7,700,000**	**$270,106,381**
Percent Change (2003 SRE: 2010 SNA)	287.7%	279.3%	151.3%	105.9%	187.5%	158.8%	224.6%

Figure E-1
Statewide GA System Needs Assessment Project Cost Estimate



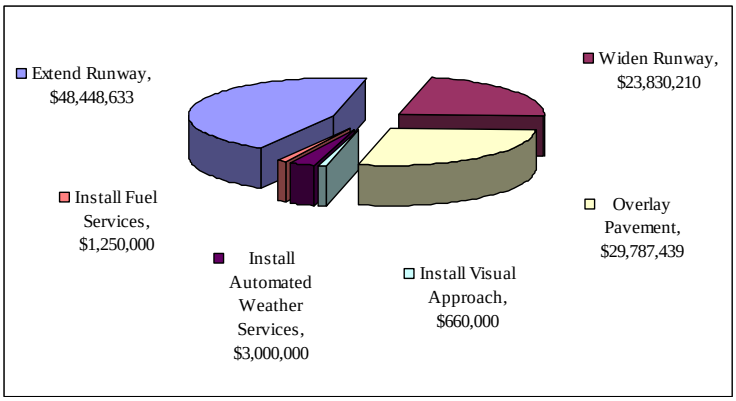
Costs presented in this edition of the GASNA also highlight priority NPIAS and non-NPIAS projects as shown in Table E-2. All totaled the recommended priority projects

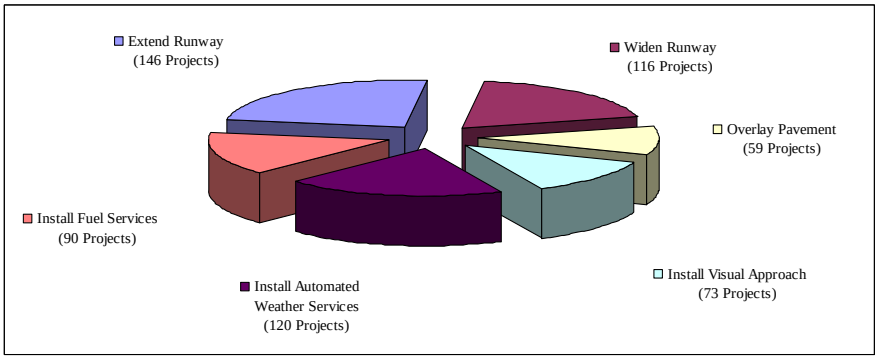
could cost in excess of $197,000,000 over a multi-year period. Of this sum, approximately $106,976,283 is attributed to just Priority 1 NPIAS improvements. Figure E-2 graphically shows the distribution of project improvement costs for the Priority 1 NPIAS airports. Making sense of these tables and numbers will always depend on what one is looking to discern. One way to use the estimated costs is for planning and budget forecasting. Consider if the FAA could fund just the Priority 1 projects through their Airport Improvement Program grants over a multi-year period ($101,627,468 or 95%). Over roughly the same period of time the State would need to plan for the expenditure of $2,540,687 to provide the approximate 2.5 percent State match, and local applicants would need to plan for the remaining 2.5 percent local match.

Table E-2
Statewide GA System Needs Assessment Projects Cost Estimate

	Runway Enhancements Cost Estimates			Other Desirable Airport Safety Attributes Cost Estimates			
	Extend Runway	Widen Runway	Overlay Runway Pavement	Install Visual Approach	Install Automated Weather Services	Install Fuel Services	Airport Project Costs Estimate Total
Statewide Projects Cost Estimate Total	$103,326,331	$83,589,196	$59,170,854	$4,320,000	$12,000,000	$7,700,000	**$270,106,381**
Statewide Priority 1 Airports Total	**$48,448,633**	**$23,830,210**	**$29,787,439**	**$660,000**	**$3,000,000**	**$1,250,000**	**$106,976,283**
Federal AIP Grant (95% of total project cost)	$46,026,202	$22,638,700	$28,298,067	$627,000	$2,850,000	$1,187,500	$101,627,468
FAA AIP State Match (2.5% of AIP Grant)	$1,150,655	$565,967	$707,452	$15,675	$71,250	$29,688	$2,540,687
FAA AIP Local Match (2.625% of total project cost)	$1,271,777	$625,543	$781,920	$17,325	$78,750	$32,813	$2,808,127
Statewide Priority 2 Airports Total	**$16,926,716**	**$11,844,075**	**$5,528,327**	**$720,000**	**$2,700,000**	**$900,000**	**$38,619,117**
Federal AIP Grant (95% of total project cost)	$16,080,380	$11,251,871	$5,251,910	$684,000	$2,565,000	$855,000	$36,688,161
FAA AIP State Match (2.5% of AIP Grant)	$402,010	$281,297	$131,298	$17,100	$64,125	$21,375	$917,204
FAA AIP Local Match (2.625% of total project cost)	$444,326	$310,907	$145,119	$18,900	$70,875	$23,625	$1,013,752
Statewide Priority A Airports Total	**$9,065,542**	**$17,179,492**	**$8,446,015**	**$720,000**	**$1,100,000**	**$2,000,000**	**$38,511,049**
State A&D Grant (90% of total project cost)	$8,158,988	$15,461,543	$7,601,413	$648,000	$990,000	$1,800,000	$34,659,944
Local Match (10% of total project cost)	$906,554	$1,717,949	$844,601	$72,000	$110,000	$200,000	$3,851,105
Statewide Priority B Airports Total	**$3,769,573**	**$6,481,035**	**$491,263**	**$360,000**	**$800,000**	**$1,200,000**	**$13,101,871**
State A&D Grant (90% of total project cost)	$3,392,616	$5,832,931	$442,137	$324,000	$720,000	$1,080,000	$11,791,683
Local Match (10% of total project cost)	$376,957	$648,103	$49,126	$36,000	$80,000	$120,000	$1,310,187
				Subtotal of Priority Airports (1, 2, A & B)			**$197,208,319**
Statewide Roll-up of Potential Funding Sources							
Federal AIP Grant Eligible Cost Total	$62,106,582	$33,890,570	$33,549,978	$1,311,000	$5,415,000	$2,042,500	**$138,315,630**
FAA AIP Grant State Match Total	$1,552,665	$847,264	$838,749	$32,775	$135,375	$51,063	**$3,457,891**
FAA AIP Grant Local Match Total	$1,716,103	$936,450	$927,039	$36,225	$149,625	$56,438	**$3,821,879**
State Acquisition & Development Grant Total	$11,551,604	$21,294,474	$8,043,550	$972,000	$1,710,000	$2,880,000	**$46,451,627**
Local Match (10%)	$1,283,512	$2,366,053	$893,728	$108,000	$190,000	$320,000	**$5,161,292**
				Subtotal of Priority Airports (1, 2, A & B)			**$197,208,319**
All Other Airports Total	$25,115,866.99	$24,254,385	$14,917,810	$1,860,000	$4,400,000	$2,350,000	**$72,898,062**
							$270,106,381

Figure E-2
Priority 1 GA Projects by Cost, Type and Quantity





Looking ahead, the system of airports in California continues to struggle with a slow economy that is not expected to improve until sometime in 2011 for passenger service, and 2013 for air cargo. Notwithstanding national economics, California airports still find their greatest adversary to be land use encroachment stemming from compromising land development approvals. Additionally, the ability of many commercial service airports to handle the combined movements of people, goods and aircraft on airport property continues to move towards the upward limits of capacity. Some commercial airports are forecast to reach capacity by 2015 others by 2025, although both dates may depend on recession recovery efforts. Addressing capacity constraints is a critical consideration facing GA airports, particularly Reliever airports. As business, cargo and recreation aircraft face displacement from some commercial facilities nearing capacity, the need to improve Reliever and other airports to accommodate these business sectors continues to increase. Delaying improvements means potentially losing the business and economic benefits that follow these activities.

Investing in system improvements continues to be championed by the FAA Airport Improvement Program (AIP) grants. Funding up to 95% of eligible project costs, California typically matches approximately 2.5% of the cost with local agencies funding the remaining 2.5% match. While the State match was suspended for the 2009/2010 fiscal year, the California local airport loan program remained unaffected. Using the

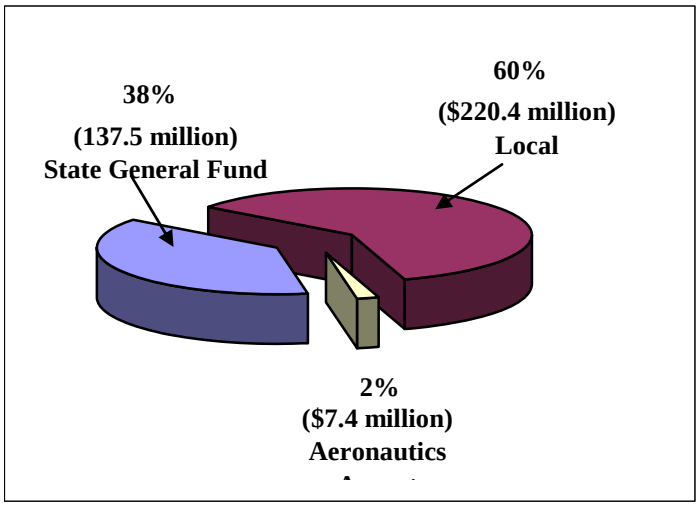
GASNA's recommended projects cost summary estimation helps airport operators prioritize activities in their Capital Improvement Plans, hopefully increasing the chance for funding.

Yet in order to complete the funding story it is important to understand that there is a disproportionate distribution of aviation user taxes that impacts the State's ability to adequately fund safety projects and critical infrastructure improvements at GA airports. For example, in 2007, aviation's annual contribution to State and local governments exceeded $365 million derived from various aviation user taxes as shown below.

California Aviation User Taxes Total: $365.3 million
GA Fuel "Excise Taxes: $7.4 million
Sales and Use Taxes: $218.6 million
Property Taxes and Possessory Interests: $139.3 million

Of the $365.3 million, approximately $138 million was distributed to the State General Fund, while approximately $220 million was distributed to local governments to support transit, public safety, schools and special districts. Only approximately $7.4 million derived from GA Fuel Excise Taxes was retained for the Aeronautics Account. In sum, of the approximate $365 million brought into the State by aviation user taxes, only 2 percent was authorized for investment back into the aviation system. These values are shown in Figure E-3. Of the $7.4m available for Aeronautics use, approx $3.3m was used for Division operating expenses leaving only $4.1m for CAAP Programs including State AIP matching grants, A&D grants, and annual credits grants. Spreading these few dollars across 249 public use airports is challenging and has been further complicated by a decline in aviation fuel sales of approximately 1.3 percent per year for the past ten years.

Figure E-3
California Aviation Tax Revenue Sources and Distribution (FY 2007-08)



Over the next decade, enhancements in the nation's air operations are expected to substantially improve with the introduction of the FAA's Next Generation (NextGen) satellite-based technology. As the FAA rolls out technologically superior equipment geared for the cockpit, the need for airports to keep pace with this technology will also increase. To that end, the Division of Aeronautics continues to strive for a safer and more efficient network of airports that serves the transportation needs of the State in a changing global environment.