

Economic Impacts of the South Denali Implementation Plan

prepared for:

National Park Service
and
Planning and Land Use Department,
Matanuska-Susitna Borough

prepared by:

Steve Colt
Nick Szymoniak
Institute of Social and Economic Research
University of Alaska Anchorage

in collaboration with:

Ginny Fay
EcoSystems
1101 Potlatch Circle
Anchorage AK

contact:

steve.colt@uaa.alaska.edu

907-786-1753

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Abstract

This study estimates the economic effects of carrying out the South Denali Implementation Plan. The plan provides for construction of new visitor facilities in the South Denali Region. ISER economists used the IMPLAN input-output modeling system to project the jobs, income, and sales due to 1) initial construction activity; 2) ongoing operation and maintenance expenses; and 3) additional visitation and visitor spending attributable to the new facilities. The model results include the effects at the Mat-Su Borough and statewide Alaska levels. Local area impacts are also estimated.

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Executive Summary

The South Denali Implementation Plan (the Plan) calls for additional visitor facilities including buildings, parking areas, campgrounds and trails. The economic effects of implementing the plan include additional jobs, income, and sales resulting from five types of spending:

- spending by government for construction of public facilities;
- spending by private businesses for the construction of new travel related facilities;
- spending by government for facility operations and maintenance;
- spending by nonresident visitors to Alaska; and
- spending by Alaska residents.

The purpose of this study is to estimate these effects separately for the Matanuska-Susitna Borough economy and for the Alaska economy. The analysis considers a baseline or “current status” scenario with no new facilities and compares that baseline to two alternatives: a **high scenario** and a **medium scenario**.¹ The IMPLAN input-output economic model is used to translate direct spending into jobs and income and to calculate economic multiplier effects.

High scenario

The high scenario is based on full implementation of the Plan. Key assumptions include:

- The South Denali Visitor Center at Curry Ridge plus additional trails, campgrounds, and enhancements to the Petersville Road are built at a total cost of \$46.0 million.
- Private sector investors spend \$15 million on 75 new hotel rooms and an additional \$15 million on other tourism facilities such as gas stations and restaurants
- The visitor center is staffed with a \$551,000 annual payroll.
- Nonresident Visitors to Alaska spend an additional \$30.9 million
- Alaska residents spend an additional \$12.7 million in the Mat-Su Borough

The resulting economic impacts to the Mat-Su Borough under this scenario can be summarized as follows:

Jobs. Full implementation of the Plan, which includes the Curry Ridge Visitor Center as well as Parks Highway and Petersville Road enhancements, results in a net increase in the Matanuska-Susitna Borough of 403 construction jobs each year for three years and 669 annual on-going jobs from new non-resident and resident visitor spending and visitor center staffing and maintenance.

Income. These jobs translate into \$21.3 million in construction sector annual income for three years plus \$19.0 million annual on-going personal income.

Construction spending from full implementation of the plan equals \$76 million -- \$46 million in public spending plus \$30 million of additional private sector investment. The private sector construction expenditures are expected to occur in a new development node in the vicinity of the new visitor center.

¹ See the Project Plan section on page 8 for more details on facilities.

New business development is likely to occur in the road corridor from the north boundary of Denali State Park south to Trapper Creek, the Y and Talkeetna. New visitation will require approximately 235 new overnight rooms, four or more restaurants, a general retail outlet and gas station. New car rental business activity would most likely be located in Anchorage.

Tourism growth. Full implementation of the plan is expected to result in 20% of current tourism visitors spending an additional day in the vicinity of the visitor center and a 20% increase in the number of cruise land tour visitors spending three days and two nights in the area.

Medium Scenario

The medium scenario is based on partial implementation of the Plan. Key assumptions include:

- The South Denali Visitor Center at Curry Ridge is built at a cost of \$28.1 million.
- The visitor center is staffed with a \$551,000 annual payroll.
- Nonresident Visitors to Alaska spend an additional \$11.7 million
- Alaska residents spend an additional \$880,500 in the Mat-Su Borough

The resulting economic impacts to the Mat-Su Borough under this scenario can be summarized as follows:

Jobs. Partial implementation of the Plan, which includes only the South Denali Visitor Center, results in a net increase in the Matanuska-Susitna Borough of 119 construction jobs each year for three years and 184 annual on-going jobs from new non-resident and resident visitor spending and visitor center staffing and maintenance.

Income. These jobs translate into \$6.4 million in construction sector annual income for three years and \$5.8 million annual on-going personal income related to increased visitation.

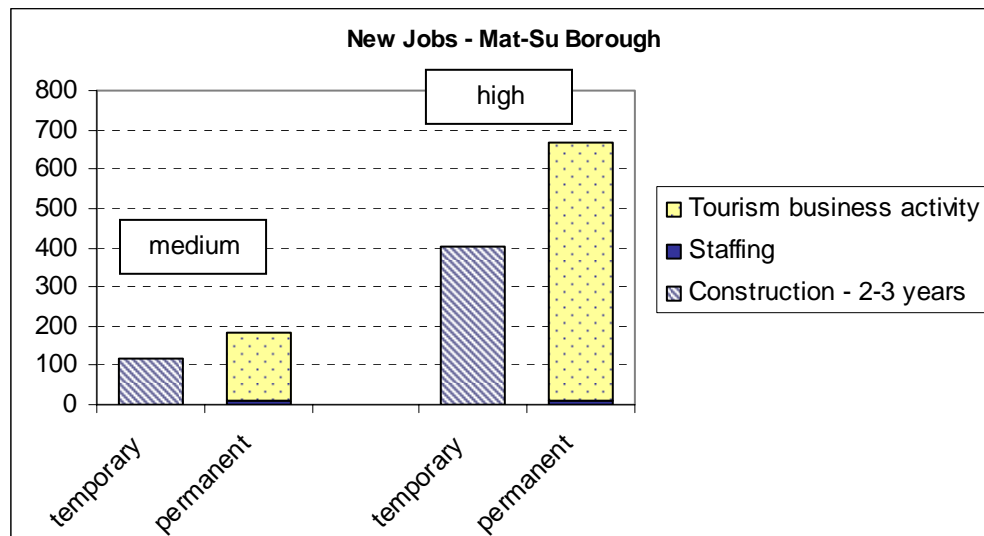
Construction spending under this scenario is \$28.1 million in public funds.

New business development is likely to occur in the road corridor from the north boundary of Denali State Park south to Trapper Creek, the Y and Talkeetna but is likely to be more limited than under full implementation of the plan.

Tourism growth. Under this scenario the partial implementation of the Plan results in 20% of current tourism visitors spending an additional half-day in the vicinity of the visitor center and also a 10% increase in the number of cruise land tour visitors spending three days and two nights in the area.

Summary of jobs, income, and expenditures in the Mat-Su Borough

	Scenario	
	Medium	High
Employment (avg annual jobs)		
Construction (2-3 years)	119	403
Ongoing Activity, total	184	669
Visitor center staffing	9	9
Nonresident Visitor spending	159	478
Alaska resident traveler spending	16	182
Income (\$ million per yr)		
Construction (2-3 years)	6.4	21.3
Ongoing Activity, total	5.8	19.0
Visitor center staffing	0.7	0.7
Nonresident Visitor spending	4.7	14.2
Alaska resident traveler spending	0.4	4.1
Expenditures / Output (\$ million per yr)		
Construction (2-3 years)	13.2	43.0
Ongoing Activity, total	14.0	47.9
Visitor center staffing	1.3	1.3
Nonresident Visitor spending	11.5	34.8
Alaska resident traveler spending	1.2	11.8



Local Area Business Development

The local area for this analysis is defined as the highway corridor from the northern border of Denali State Park to Trapper Creek and the “Y” community, and including Talkeetna. Under the high scenario, the input-output model projects that additional visitor activity and spending will be sufficient to support the following new business development within the local area:

- \$15 million spent on 75 new hotel rooms close to the visitor center to accommodate additional cruise-tour traffic.
- \$15 million additional spent in the local area, at one or more small development nodes, on 40-60 additional hotel rooms (in addition to the 75 above); approximately 4 eating establishments, and approximately one gasoline station.

Under the medium scenario, spending increases are lower and we project that additional demand can be met by the expansion of activity at existing business establishments.

Estimated local area economic impacts are shown in the following table. These include between 95 and 322 short-run jobs driven by construction and between 94 and 337 ongoing jobs driven by tourism.

Summary of jobs, income, and new business development in the local development area

	Total Mat-Su impact		% of total in local area	Local area impact	
	Medium	High		Medium	High
Employment (avg annual jobs)					
from Construction (2-3 years)				95	322
Visitor Facilities in the Plan	119	193	80%	95	154
Hotel rooms & other business construction	0	210	80%	0	168
from Ongoing Visitor Spending				94	337
Visitor center staffing	9	9	80%	7	7
Nonresident Visitor spending	159	478	50%	79	239
Alaska resident traveler spending	16	182	50%	8	91
Income (\$ million per yr)					
from Construction (2-3 years)	6.4	21.3	25%	1.6	5.3
from Ongoing Activity				1.4	4.7
Visitor center staffing	0.7	0.7	25%	0.2	0.2
Nonresident Visitor spending	4.7	14.2	25%	1.2	3.5
Alaska resident traveler spending	0.4	4.1	25%	0.1	1.0
New business development (# built)				Local area impact	
(impacts of this new development are included above)				Medium	High
New hotel rooms				(existing business expands)	115-135
New restaurants					4
New gas station mini-marts					1

*Local Area is defined as highway corridor from the northern border of Denali State Park to Trapper Creek and the Y and including Talkeetna

Source: Mat-Su Borough total impacts from ISER IMPLAN model runs based on scenarios described in text.

Allocations of impacts to local area are authors' assumptions.

Introduction

Visitation in the South Denali region continues to increase, requiring additional resident and non-resident visitor opportunities and new methods of management to protect natural and cultural resources and quality of life values in local communities. To address these needs, the State of Alaska, Matanuska-Susitna Borough (Mat-Su), and National Park Service developed the South Denali Implementation Plan to consider alternatives for the area. The Plan calls for additional visitor facilities including a new visitor center, parking areas, campgrounds and trails (see Map 1 at the end of this report).² The proposed facilities are at approximately mile 134 of the Parks Highway between Anchorage and Denali National Park. A new visitor complex would be constructed on approximately 4.1 acres at the highway site in Denali State Park. The total building requirement would be approximately 16,000 square feet. A facility this size could accommodate up to 300-400 people at a time. This analysis estimates the economic impacts of full and partial implementation of the South Denali Plan.

Economic Impact Analysis

The economic effects of implementing the plan include additional jobs, income, and sales resulting from five types of spending:

- spending by government for construction of public facilities;
- spending by private businesses for the construction of new travel related facilities;
- spending by government for facility operations and maintenance;
- spending by nonresident visitors to Alaska; and
- spending by Alaska residents.

The purpose of this study is to estimate these effects separately for the Matanuska-Susitna Borough economy and for the State of Alaska economy. We also estimate potential additional development in a local impact area or development node, which we define as the highway corridor from the northern border of Denali State Park to Trapper Creek and the “Y” and including Talkeetna.

An economic impact analysis traces the flows of spending associated with activity in a region to identify changes in sales, income, and jobs due to that economic activity. For this study the principal activities are construction, travel, and tourism. Economic impact assessments focus on actual flows of money into a region as contrasted with economic valuation or benefit-cost studies that generally measure willingness to pay and consumer surplus. Economic impact analysis measures benefits to the region, not the benefits to the visitors themselves.³

As a result, health, quality of life, enjoyment and other user benefits are not included in this analysis, which traces flows and impacts of spending in the economy. These user benefits, while not directly measured in this analysis, are clearly important, especially for local residents who will use the facilities. Because we are not attempting to quantify these benefits here, one might consider the numbers we do present as a conservative estimate of the overall social benefits of the project.

² www.southdenaliplanning.com

³ Stynes, Daniel J., 2005. *Economic Significance of Recreational Uses of National Parks and other Public Lands*, National Park Service, Social Science Research Review, Volume 5, Number 1, Winter 2005.

An input-output model is a representation of the flows of economic activity within a region. The model captures what each business or sector must purchase from every other sector in order to produce a dollar's worth of goods or services. Using an input-output model, in this case IMPLAN, flows of economic activity associated with a change in spending may be traced through the economy. By tracing these linkages between sectors, input-output models can estimate secondary effects of visitor spending, often captured in the form of multipliers.

Secondary effects of visitor spending are of two types: indirect and induced. Indirect effects are the changes in sales, income or jobs in sectors within the region that supply goods and services to the recreation/tourism sectors. The increased sales in linen supply businesses resulting from more lodging overnight stays is an indirect effect of visitor spending. Induced effects are the increased sales within the region from household spending of the income earned in the tourism and supporting sectors. Motel or park employees spend the income they earn from visitors on housing, utilities, and groceries. These represent induced effects of the visitor spending.

Multipliers capture the size of the secondary effects, usually expressed as a ratio of total effects to direct effects. Total effects are direct effects plus the secondary (indirect plus induced) effects. A sales multiplier of 2.0, for example, means that for every dollar received directly from a visitor, another dollar in sales is created within the region through indirect or induced effects.

The Project Plan

The South Denali Project Record of Decision and Environmental Impact Statement calls for the construction of *Alternative C: Parks Highway* of the South Denali Implementation Plan. We developed scenarios that describe changes in visitor patterns and spending and construction as a result of the new South Denali facilities.

The current status scenario assumes that no visitor center or South Denali related facilities are constructed. This scenario serves as a benchmark against which impacts can be measured.

Under the medium scenario, the South Denali Visitor Center at Curry Ridge is constructed at a cost of \$28.1 million. No additional components of the Plan are implemented as part of this scenario.

The high scenario is based on full implementation of the plan at a total construction cost of \$46.1 million. It includes the South Denali Visitor Center plus construction of the following additional facilities:

- Improve parking area/wayside at MP 121.5 and create new parking area at milepost 122 Parks Highway,
- Parking area near Rabideux Creek (west side of Parks Highway),
- Informational kiosk near Parks Highway/Petersville Road intersection,
- Non-motorized boat access near Troublesome Creek,
- Campground near Petersville Road near the Forks,
- Bike path along Petersville Road from milepost zero to seven,
- Turnouts at MP 12.8 and MP 16.3 of Petersville Road, and

- Redesign of Kroto Creek parking lot.

An overview map and map of full implementation of this alternative are shown in Maps 1 and 2 (following the text). Construction costs and annual staff employment and wage estimates are from the Final South Denali Implementation Plan and Environmental Impact Statement⁴ and updated construction cost estimates of the total costs of full implementation of the plan are from the National Park Service.

Baseline Situation

The scenarios are built from baseline data about current travel and expenditure patterns. To develop this baseline, we used the following principal primary data sources:

- Summer 2006 Alaska Visitor Statistics Program (AVSP) Exit Intercept data file
- Discussions with cruise tourism industry participants and experts⁵
- Alaska Resident Statistics Program preliminary cross-tabulations
- ISER 1993 Angler Expenditure Survey

For the purpose of this study, we have defined the **local area** to be the highway corridor from the northern border of Denali State Park to Trapper Creek and the Y and including Talkeetna. Visitor facilities in this area include about 900 existing hotel rooms: 460 rooms at Mount McKinley Princess Wilderness Lodge, 212 rooms at the Talkeetna Alaska Lodge, and about 238 rooms in other smaller establishments. These represent almost 60% of the approximately 1,600 rooms in the Borough, of which 1,200 are open year-round.⁶ Based on reported Mat-Su bed tax (5%) collections, these hotel rooms generated \$12 million in revenues in 2007. By comparison, Anchorage hotel rooms generated approximately \$147 million in revenues, based on their reported \$11.8 million in bed tax (8%) collections.⁷

Non-Resident Visitors

There were about 1.6 million nonresident Visitors to Alaska during summer 2006. According to the AVSP data, approximately 28 percent of these nonresident Visitors (hereafter: “Visitors,” with a capital “V”) included an overnight stay at Denali National Park and Preserve as part of their Alaska experience. Another 5 percent were day visitors to Denali (Table 1). Expenditures by these Visitors to Denali NP and where they occur are shown in Table 2. We also obtained data on cross-Gulf of Alaska cruise passenger volumes directly from cruise companies. These data produce a slightly higher total number of estimated Denali overnight visitors (512,543). We used this higher number as the basis for building the scenarios described below.

It is important to remember that AVSP expenditures are reported by survey respondents as dollars per party per region visited. (Only a subsample of the full survey sample provides

⁴ National Park Service, Denali National Park and Preserve, Denali National Park and Preserve Final South Denali Implementation Plan and Environmental Impact Statement, April 2006.

⁵ Interview notes are available upon request.

⁶ These room counts are based on data tabulated by the Mat-Su Convention and Visitors’ Bureau for the “McKinley Country” region, which is slightly larger than the local area defined here.

⁷ Alaska Taxable, 2007. <http://www.commerce.state.ak.us/dca/osa/assessor.cfm>

expenditure data.) Expenditures expressed as \$ per person per day are derived from overall totals. For this study we rely heavily on two of these numbers: First, the average spending while in Alaska of Visitors who spent at least one night visiting Denali NPP was \$132 per person per day. Second, the average spending while in Alaska of Visitors who visited Denali NPP but did not spend a night there was \$90 per person per day.

We used the expenditure data specific to particular regions to adjust the spending *patterns* in developing our scenarios. For example, AVSP data shows that people who visited Talkeetna spent a significant portion of their money on tours. This relatively heavy spending fraction is reflected in how the \$90/person/day figure for day visitors is allocated across industries when it is input to the economic model.

Table 1. Characteristics of Denali National Park and Preserve overnight and day nonresident Visitors, Summer 2006

	Denali National Park	
	Overnight	Day visitor
Number of visitors	456,820	81,575
% of total AK visitors	28%	5%
mean # nights @ Denali NP	2.9	
Frequency of nights stayed	Percent	
1	10.3	
2	34.5	
3	31.0	
4	10.3	
5	3.4	
6	10.3	
Exit mode	Percent	
Domestic air	49.7	56.5
International air	18.8	17.4
Ferry	5.4	6.5
Cruise ship*	13.2	3.3
Highway	12.9	16.3
Male	53.1	60.9
Female	46.9	39.1
Retired?		
Yes	50.9	46.7
No	47.6	52.2
Children living in household		
Yes	18.7	18.5
No	79.9	80.4
Average age (years)	56	55
Average party size	2.4	2.2
Average length stay- days	13.5	12.7

Source: Alaska Department of Commerce, Community and Economic Development, Alaska Visitor Statistics Program V, data file, 2007.

*As these are cross Gulf cruises, they fly one way and cruise the other. The actual percentage of overnight visitors on land tours that are cruise passengers is 26.4%.

**Table 2. Expenditures by Denali National Park and Preserve
overnight and day Visitors, Summer 2006**

Persons who visit Denali National Park		
In-State Expenditures	Overnight	Day visitor
Total Alaska per party	\$4,279	\$2,512
Total Alaska per person	\$1,783	\$1,142
Total Alaska per person per day	\$132	\$90
Total Alaska per party per day	\$317	\$198
Expenditures per party by location		
Denali-Healy-Cantwell average		
Lodging	\$180	\$0
Tours	\$156	\$61
Gifts/Souvenirs/Clothing	\$62	\$14
Food-beverages	\$84	\$14
Rental cars-fuel-transp.	\$28	\$6
other	\$60	\$0
Total	\$569	\$96
Portion total Alaska trip expenditures	13%	4%
Denali per party per day exp.	\$196	\$96
Half day increase	\$98	\$48
Talkeetna average		
Lodging	\$93	\$158
Tours	\$147	\$75
Gifts/Souvenirs/Clothing	\$36	\$30
Food-beverages	\$60	\$77
Rental cars-fuel-transp.	\$13	\$125
other	\$0	\$12
Total	\$349	\$476
Portion total Alaska trip expenditures	8%	19%
Palmer-Wasilla average		
Lodging	\$60	\$55
Tours	\$14	\$6
Gifts/Souvenirs/Clothing	\$17	\$31
Food-beverages	\$54	\$62
Rental cars-fuel-transp.	\$71	\$60
other		\$0
Total	\$216	\$213
Portion total Alaska trip expenditures	5%	8%
Anchorage		
Lodging	\$267	\$265
Tours	\$52	\$74
Gifts/Souvenirs/Clothing	\$118	\$101
Food-beverages	\$140	\$168
Rental cars-fuel-transp.	\$396	\$376
other	\$91	\$157
Total	\$1,063	\$1,141
Portion total Alaska trip expenditures	25%	45%

Source: Alaska Department of Commerce, Community and Economic Development, Alaska Visitor Statistics Program V, data file, 2007.

Notes: These are per party expenditures for surveyed non-resident Visitors who visited Denali NP during summer 2006.

Figure 1. Alaska in-state expenditures by Denali National Park and Preserve Visitors, Summer 2006

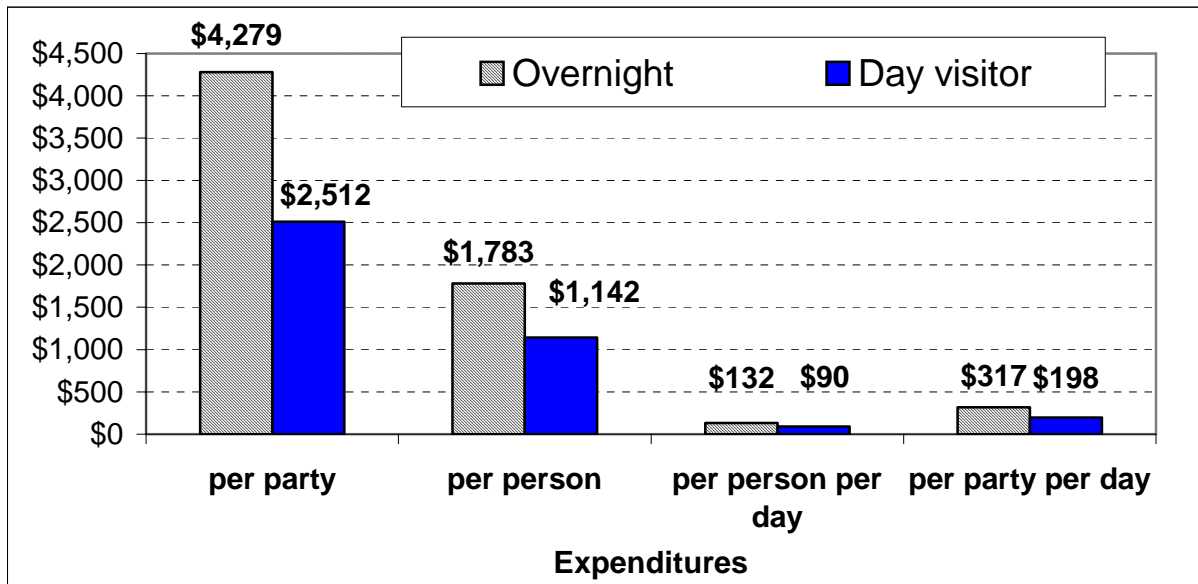
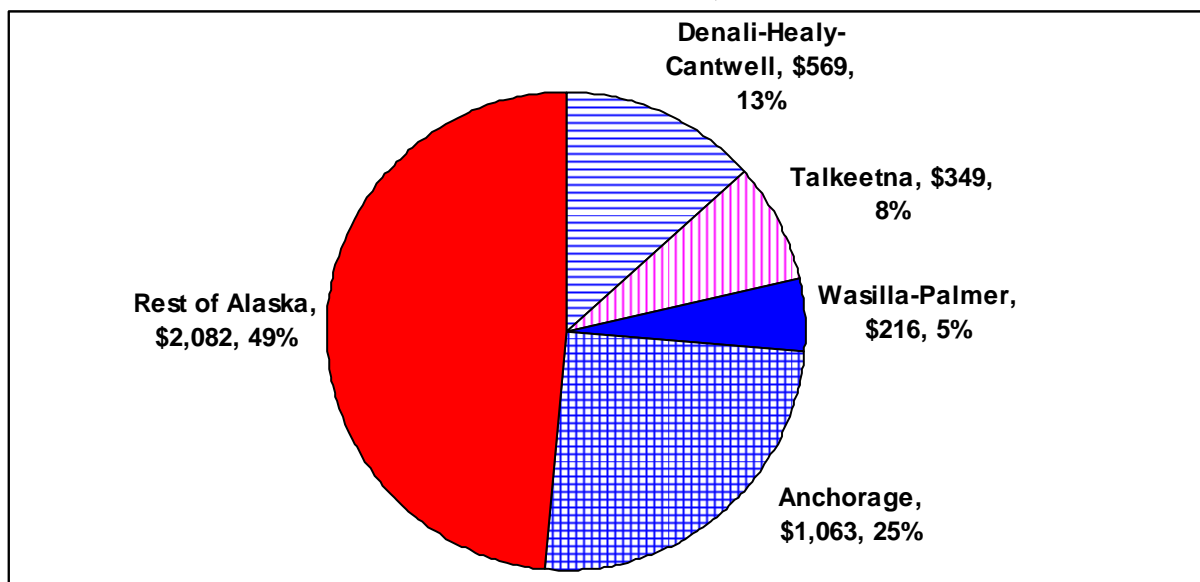


Figure 2. Distribution of Alaska in-state per-party expenditures by Denali National Park and Preserve Visitors, Summer 2006



Alaska Resident Travel

The Alaska Resident Statistics Program collected data on **trips** by Alaska residents and on activity patterns while traveling. The ARSP is a new program and the full raw dataset was not available for use in this study. Instead, we obtained data on total trips to the Mat-Su Borough made by people living outside the borough. We also obtained data on what activities were pursued during these trips.

Table 3. Numbers of Alaska residents visiting Mat-Su Borough from Southcentral and Interior regions, number of visits, and frequency of activities while visiting

Population base (18+)	333,066		
Total people making visits		159,848	
Total visits (lower bound estimate)		736,222	
Total visits (best estimate)		1,021,852	
Activity frequency:			
		lower bound	
		estimate	best estimate
visit developed campgrounds		99,790	138,330
visit developed trail systems		196,827	270,466
hike		190,633	262,895
camp		148,653	208,527
wildlife viewing		180,310	249,819
fishing (freshwater)		131,448	181,687
boating (nonmotorized)		48,863	66,068
ski and snowshoe		62,627	86,026
snowmachine		109,336	126,796

Note: The columns “lower bound estimate” and “best estimate” reflect the range of values obtained from the same raw data but using two different methods for tabulating the raw data.

Source: Alaska Resident Statistics Program, preliminary results. People living inside the Mat-Su Borough are excluded from these counts.

As Table 3 shows, about half of the people living in Anchorage, the Kenai, or the Interior (Fairbanks + environs) regions make at least one visit to the Mat-Su Borough each year. Hiking, wildlife viewing, fishing, and snowmachining are the most popular activities. When reviewing these data it is important to note that there is no information about the length of each “visit.” We made assumptions about visit length and about expenditures per visit. These are described below under the appropriate scenario.

One way of thinking about the data on current visitation is that there are about one half million nonresident Visitors who currently go to Denali as a destination, and there are about one million Alaska resident trips to the Mat-Su Borough as a destination. This, very roughly, is the baseline visitation level on which we based our scenarios. It should also be noted that these baseline numbers have been growing at about 2-5% per year⁸ and are likely to continue growing into the future as part of the baseline situation. Our medium and high scenarios consider additional activity beyond this underlying growth.

Scenarios of Future Activity

We developed high, medium and current status scenarios for input into the economic impact models. The potential economic outcomes stemming from proposed new visitor centers are uncertain and could be affected by a number of circumstances. These include exchange rates, global political unrest, and most importantly peoples’ preferences for different types of experiences. As a result, these scenarios represent a range of potential economic impacts. The

⁸ There is no resident travel data on which to base a trend. Nonresident Visitor travel has grown at various annual rates generally between 1% and 8% during the past decade.

actual outcome is likely to be a mixture of these attributes falling somewhere along the spectrum bracketed by the medium and high scenarios.

High and medium scenarios represent:

- Projected shifts in the numbers of non-resident Visitors;
- Incremental changes in these Visitors' expenditures;
- National Park Service visitor center staffing;
- Public construction of the new visitor facilities in the Plan, as well as private construction spending for additional accommodations and other businesses to support increased visitation.
- Shifts in Alaska resident travel and spending from other Alaska regions and to Mat-Su

Current Status Scenario

Construction. Under this scenario, **no new facilities** are constructed.

Visitor Center Staffing. Under this scenario, there are **no changes** in the number of NPS employees.

Nonresident Visitors. This scenario assumes there are **no changes** in the number of visitors, their length of stay, or their expenditures in Alaska. Total visitor expenditures and underlying expenditure growth trends would remain the same as they currently are.

Alaska resident travel. This scenario assumes **no change** in net visitation patterns to the Mat-Su Borough by residents of other regions. Underlying growth commensurate with population growth will continue.

Medium Scenario

Construction. The South Denali Visitor Center at Curry Ridge is built at a cost of \$28.1 million. The construction costs are divided one third each among construction wages/labor, materials, and project management. The labor and project management dollars would be paid to Alaskans while the materials portion would largely be spent on materials produced out of state. Even if materials are purchased from an Alaska firm, that firm purchases them from out of state and most of the dollars leave Alaska. For modeling purposes, it is assumed 70% of the total construction expenditure stays in Alaska and 30% is spent out of state. There are sufficient and adequately skilled construction companies based in the Mat-Su or with laborers living in the Mat-Su to assume that all construction wages paid would go to Mat-Su residents. For the project management third, 75% is paid to Mat-Su companies and 25% to Anchorage companies.

Visitor Center Staffing. Under this medium scenario, it is also assumed that the NPS receives a budget increase to fund additional NPS employees in the new visitor center (\$551,000). As a result, employment and wages for new visitor center staff is a net increase in wages paid to employees residing in the Mat-Su Borough. There is no loss of NPS wages to the Denali Borough.

Non-resident Visitors. The medium scenario assumes that 1) the current number of Visitors increase their length of stay and expenditures in Alaska and 2) there are also changes in the number of Visitors as a result of the additional facilities and activities offered at the new visitor center. Based on discussions with tour operators, cruise line, and backcountry visitor representatives, we assume that the increases in visitation are proportional across market sectors (cruise, domestic air, highway/ferry).

According to AVSP V summer visitor intercept data, approximately 28% of Alaska Visitors currently overnight at Denali NP area, spending 2.9 days. Another 5% do day visits. **In this medium scenario, we assume that 10% of these Denali Visitors spend an additional half day in the Denali area (mostly on the South side) and their expenditures therefore increase by half of their average per person per day: a \$66 increase for overnight Visitors and a \$45 increase for day Visitors.** These assumptions result in a total of \$3.4 million in increased expenditures by overnight Visitors and a \$366,700 increase in expenditures by day Visitors. This increased spending is allocated 75% to the Mat-Su Borough and 25% to the Interior region north of the borough.

In addition to the extra time spent by current visitors, we assume that there is an increase in the number of people on cross Gulf of Alaska cruises who take land tours. Approximately 350,000 visitors took cruises that crossed the Gulf in 2007. Of these, approximately 175,000 to 200,000 took Denali NPP land tours. According to cruise company representatives, the new opportunities and tours that would be developed to take advantage of the visitor center would increase the portion of cross Gulf cruise passengers taking land tours. We assume each passenger spends two nights and three days on these tours, based on interviews with industry representatives. **Under the medium scenario, we assume that the Denali land tour subsector of the cross-gulf cruise market grows by 10 percent, or 20,000 additional tours of 3 days + 2 nights each.** This results in a \$7.9 million increase in visitor spending from cruise land tours. This spending is allocated 80% to the Mat-Su Borough and 20% to Anchorage.

The grand total net increase in Visitor expenditures under the medium scenario is \$11.7 million (extended stay plus new cruise tours).

Alaska resident travel. In this medium scenario we assume that the baseline number of visits for hiking, camping, wildlife viewing, and snowmachining is about 630,000. Each visit is assumed to generate one person-day of activity. In this scenario we assume that this number **increases by 5%** as a result of South Denali facilities and that each additional person-day generates an additional \$28 of spending within the Mat-Su Borough. This figure is based on the ISER 1993 Angler expenditure survey data adjusted for inflation. The total increase in direct spending within the Mat-Su Borough is \$880,500. This increase represents a shift in spending by Alaskans within Alaska and is not included when measuring statewide impacts.

High Scenario

Construction. The South Denali Visitor Center at Curry Ridge plus other Parks Highway and Petersville Road enhancements are built for a total cost of \$46.1 million. The allocation of this spending is the same as in the medium scenario: 70% of the total construction expenditure stays

in Alaska and 30% is spent out of state. All direct construction wages would go to Mat-Su residents. For the project management third, 75% is paid to Mat-Su companies and 25% to Anchorage companies.

It is also assumed that 75 additional hotel rooms are constructed to handle the increased cruise-tour visitor nights. At \$200,000 per hotel room, this adds \$15 million to construction expenditures. These are similarly proportioned to the visitor center construction pattern of one third each to labor/wages, material and construction management.

Finally, in this scenario \$15 million is also assumed to be spent in the local area, at one or more small development nodes, on 40-60 additional hotel rooms (in addition to the 75 above); approximately 4 eating establishments, and approximately one gasoline station.

Visitor Center Staffing. Under this scenario, it is also assumed that the NPS receives a budget increase to fund additional NPS employees in the new visitor center (\$551,000). As a result, employment and wages for new visitor center staff is a net increase in wages paid to employees residing in the Mat-Su Borough. There is no loss of NPS wages to the Denali Borough.

Non-resident Visitors. The high scenario includes the same types of impacts as the medium scenario. However, in this high scenario, we assume that **20% of all current Denali visitors spend an additional full day in the Denali area and their expenditures increase by the average per person per day expenditure: A \$132 increase for overnight visitors and a \$90 increase for day visitors.** These assumptions result in a total of \$15.0 million in increased Visitor expenditures. This increase is allocated 100% to the Mat-Su Borough.

As in the medium scenario, we assume that there is an increase in the number of people on cross Gulf of Alaska cruises who take land tours. In 2007 approximately 350,000 people did the Gulf crossing and approximately 175,000 to 200,000 took Denali NP land tours. Based on information from cruise line officials, we assume that in the high scenario **there will be a 20% increase in these tours** because of the new opportunities and new tours developed to take advantage of the visitor center. We assume each tour customer spends two nights and three days. This results in a \$15.9 million increase in visitor spending from cruise land tours. This spending is allocated 80% to the Mat-Su Borough and 20% to Anchorage.

The grand total net increase in Visitor expenditures under the high scenario is \$30.9 million (extended stay plus new cruise tours).

Alaska resident travel. In the high scenario we assume that the baseline number of visits for hiking, camping, wildlife viewing, and snowmachining is 848,000. Each visit is assumed to generate 1.5 person-days of activity. In this scenario we assume that this number **increases by 10% as a result of South Denali facilities and that each additional person-day generates an additional \$100 of spending** within the Mat-Su Borough. This \$100 figure is based on the AVSP spending patterns used above (\$132 / person / day) with adjustments to reduce the amounts spent on commercial tours and gifts and to increase the amount spent on motor fuel. The result of these assumptions is a projected \$12.7 million increase in direct spending within

the Mat-Su Borough. This increase represents a shift in spending within Alaska and is not included when measuring statewide impacts.

Tables 4 and 5 provide a summary of these scenario assumptions. Table 4 highlights the major assumptions in each scenario. Table 5 shows the assumed increases in non-resident Visitor spending in more detail.

Table 4. South Denali economic impact scenarios

	Current	Medium	High
New facilities	None	Curry Ridge Visitor Center	Curry Ridge Visitor Center plus Parks Highway and Petersville Road enhancements
Construction spending	\$0.0	\$28.1 million	\$46.0 million
One-third each labor, management and materials; labor to Mat-Su residents; 90% materials out of state			
project management 75% Mat-Su and 25% Anchorage			
New hotel room construction	None	None	\$30 million for new accommodations & other businesses; spending distributed similar to visitor center construction
Visitor center staffing	No new \$\$	\$551,000; net increase in NPS wages paid to staff residing in Mat-Su Borough	\$551,000; net increase in NPS wages paid to staff residing in Mat-Su Borough
Nonresident Visitors	No change	Net increase: 10% all visitors 1/2 day longer; 10% increase 3-day, 2-night land tours	Net increase: 20% all visitors 1 day longer; 20% increase in 3-day, 2-night land tours
Alaska resident direct spending in MatSu	No change	\$880,500 additional	\$12.7 million additional
Distribution of direct increase in visitor spending:			
Extended length of stay	No net increase in visitor spending	25% Denali, 75% Mat-Su	100% Mat-Su
New land tours	No change	20% Anchorage, 80% Mat-Su	20% Anchorage, 80% Mat-Su

Table 5. Net increase in direct expenditures by nonresident Visitors to Denali National Park and Preserve, medium and high scenarios

	Baseline (2006)		Medium scenario		High scenario	
	Overnight	Day	Overnight	Day	Overnight	Day
Longer visits:						
Baseline Visitors	512,543	81,575	512,543	81,575	512,543	81,575
Additional Visitor-days	0	0	25,627	4,079	102,509	16,315
Additional spending per Visitor-day			\$132	\$90	\$132	\$90
Additional Visitor spending			\$3,384,554	\$366,650	\$13,538,217	\$1,466,598
Total additional spending from longer visits			\$3,751,204		\$15,004,815	
Additional cruise land tour activity:						
Number of additional 3-day, 2-night tours			20,000		40,000	
Additional spending per tour			\$396		\$396	
Total additional spending from more tours			\$7,924,151		\$15,848,301	
**Grand total additional Visitor spending			\$11,675,354		\$30,853,116	
Location of spending:						
Denali Borough			\$937,801		\$0	
Mat-Su Borough			\$9,152,723		\$27,683,456	
Anchorage Municipality (20% of tour \$)			\$1,584,830		\$3,169,660	
Total			\$11,675,354		\$30,853,116	

Source: Alaska Department of Commerce, Community and Economic Development, Alaska Visitor Statistics Program V, data file, 2007; industry interviews; ISER estimates.

Results

Mat-Su Borough and Alaska Impacts

Table 6 (p. 20) summarizes the economic effects of these scenarios for the Mat-Su Borough. Table 7 (p. 21) shows the statewide effects. The following general points should be noted. Construction-related impacts are temporary. However, in the medium and high scenarios more permanent jobs are generated in visitor services than in the construction efforts.

Tables 8 (p. 22) and 9 (p. 23) show summaries of total impacts for the Mat-Su Borough and Alaska, respectively, with a side-by-side comparison of results across scenarios. For example, the employment gain in the Mat-Su Borough due to ongoing nonresident Visitor spending varies from 0 in the base case to 484 jobs in the high scenario.

In some categories impacts to Alaska are greater than impacts to the Mat-Su Borough. The key example of this is nonresident Visitor spending impacts. Some of these impacts occur in Anchorage or other Alaska regions outside the Mat-Su Borough, so total Alaska impacts are greater than Mat-Su impacts.

In other categories Mat-Su Borough impacts are greater. The most important example of these is spending by Alaska residents traveling to the Mat-Su Borough and spending more money there.

This spending is a displacement of purchases by Alaskans that would otherwise be made in other regions of the state and hence does not add to the overall Alaska impact.

**Table 6. Summary of direct, indirect and induced impacts
of the South Denali Implementation Plan on the Mat-Su Borough
(\$ million per yr or average annual employment)**

		Direct	Indirect	Induced	Total
Current Status Scenario		0.0	0.0	0.0	0.0
Medium Scenario					
Construction					
<i>Parks Hwy Visitor Center</i> <i>(per year for 3 years)</i>	Expenditures	9.4	1.1	2.7	13.2
	Employment	80	11	28	119
	Labor Income	5.1	0.5	0.8	6.4
Visitor Spending* <i>(ongoing, nonresidents)</i>	Expenditures	8.2	1.4	2.0	11.5
	Employment	123	15	21	159
	Labor Income	3.6	0.5	0.6	4.7
Alaska Resident Spending <i>(ongoing)</i>	Expenditures	0.9	0.2	0.2	1.2
	Employment	12	2	2	16
	Labor Income	0.3	0.1	0.0	0.4
Visitor Center Staffing <i>(ongoing)</i>	Expenditures	0.9	0.1	0.3	1.3
	Employment**	23	1	3	27
	Labor Income	0.6	0.0	0.1	0.7
High Scenario					
Construction					
<i>Parks Hwy Visitor Center</i> <i>(per year for 3 years)</i>	Expenditures	15.3	1.6	4.4	21.4
	Employment	130	17	46	193
	Labor Income	8.3	0.7	1.3	10.4
<i>New Hotel Rooms & other business construction</i> <i>(per year for 2 years)</i>	Expenditures	15.0	2.0	4.7	21.7
	Employment	140	22	48	210
	Labor Income	8.7	0.9	1.4	11.0
Visitor Spending* <i>(ongoing, nonresidents)</i>	Expenditures	24.7	4.1	6.0	34.8
	Employment	370	46	62	478
	Labor Income	10.9	1.4	1.8	14.2
Alaska Resident Spending <i>(ongoing)</i>	Expenditures	8.5	1.6	1.7	11.8
	Employment	146	18	18	182
	Labor Income	3.1	0.5	0.5	4.1
Visitor Center Staffing <i>(ongoing)</i>	Expenditures	0.9	0.1	0.3	1.3
	Employment**	23	1	3	27
	Labor Income	0.6	0.0	0.1	0.7
** Direct employment of visitor center staffing is seasonal jobs					

Source: ISER IMPLAN model runs based on scenarios described in text.

**Table 7. Summary of direct, indirect and induced impacts
of the South Denali Implementation Plan on Alaska
(\$ million or average annual employment)**

		Direct	Indirect	Induced	Total
Current Status Scenario		0.0	0.0	0.0	0.0
Medium Scenario					
Construction					
<i>Parks Hwy Visitor Center</i> <i>(per year for 3 years)</i>	Expenditures	9.4	2.3	3.5	15.1
	Employment	69	14	32	114
	Labor Income	4.9	0.7	1.1	6.7
Visitor Spending <i>(ongoing, nonresidents)</i>	Expenditures	10.4	2.6	3.4	16.3
	Employment	149	22	31	202
	Labor Income	4.8	0.8	1.1	6.7
Alaska Resident Spending <i>(ongoing)</i>	Expenditures	No impact because total spending within Alaska remains constant.			
	Employment				
	Labor Income				
Visitor Center Staffing <i>(ongoing)</i>	Expenditures	0.9	0.2	0.4	1.4
	Employment**	23	2	3	28
	Labor Income	0.6	0.1	0.1	0.7
High Scenario					
Construction					
<i>Parks Hwy Visitor Center</i> <i>(per year for 3 years)</i>	Expenditures	15.3	3.8	5.7	24.8
	Employment	112	21	51	185
	Labor Income	8.0	1.1	1.8	10.9
<i>New Hotel Rooms & other business construction</i> <i>(per year for 2 years)</i>	Expenditures	15.0	3.0	5.8	23.9
	Employment	118	24	53	195
	Labor Income	8.2	1.2	1.8	11.2
Visitor Spending <i>(ongoing, nonresidents)</i>	Expenditures	27.5	6.8	8.9	43.2
	Employment	394	57	81	532
	Labor Income	12.7	2.2	2.8	17.6
Alaska Resident Spending <i>(ongoing)</i>	Expenditures	No impact because total spending within Alaska remains constant.			
	Employment				
	Labor Income				
Visitor Center Staffing <i>(ongoing)</i>	Expenditures	0.9	0.2	0.4	1.4
	Employment**	23	2	3	28
	Labor Income	0.6	0.1	0.1	0.7

** Direct employment of visitor center staffing is seasonal jobs

Source: ISER IMPLAN model runs based on scenarios described in text.

**Table 8. Summary of economic impacts of the
South Denali Implementation Plan on the Mat-Su Borough
(\$ million per yr or average annual employment)**

	Scenario		
	Current	Medium	High
Employment (avg annual jobs)			
Construction (2-3 years)	0.0	119	403
Ongoing Activity, total	0.0	184	669
Visitor center staffing*	0.0	9	9
Nonresident Visitor spending	0.0	159	478
Alaska resident traveler spending	0.0	16	182
Income (\$ million per yr)			
Construction (2-3 years)	0.0	6.4	21.3
Ongoing Activity, total	0.0	5.8	19.0
Visitor center staffing*	0.0	0.7	0.7
Nonresident Visitor spending	0.0	4.7	14.2
Alaska resident traveler spending	0.0	0.4	4.1
Expenditures / Output (\$ million per yr)			
Construction (2-3 years)	0.0	13.2	43.0
Ongoing Activity, total	0.0	14.0	47.9
Visitor center staffing*	0.0	1.3	1.3
Nonresident Visitor spending	0.0	11.5	34.8
Alaska resident traveler spending	0.0	1.2	11.8

*Visitor center avg annual employment converted from previous tables assuming positions are 4 mos/yr

Source: ISER IMPLAN model runs based on scenarios described in text.

**Table 9. Summary of economic impacts of the
South Denali Implementation Plan on Alaska**

	Scenario		
	Current	Medium	High
Employment (avg annual jobs)			
Construction (2-3 years)	0.0	114	380
Ongoing Activity, total	0.0	211	542
Visitor center staffing*	0.0	9	9
Nonresident Visitor spending	0.0	202	532
Alaska resident traveler spending	0.0	0	0
Income (\$ million per yr)			
Construction (2-3 years)	0.0	6.7	22.1
Ongoing Activity, total	0.0	7.4	18.4
Visitor center staffing*	0.0	0.7	0.7
Nonresident Visitor spending	0.0	6.7	17.6
Alaska resident traveler spending	0.0	0	0
Expenditures / Output (\$ million per yr)			
Construction (2-3 years)	0.0	15.1	48.7
Ongoing Activity, total	0.0	17.8	44.6
Visitor center staffing*	0.0	1.4	1.4
Nonresident Visitor spending	0.0	16.3	43.2
Alaska resident traveler spending	0.0	0	0

*Visitor center avg annual employment converted from previous tables assuming positions are 4 mos/yr

Source: ISER IMPLAN model runs based on scenarios described in text.

Potential Business Development in Local Area

The local area for this analysis is defined as the highway corridor from the northern border of Denali State Park to Trapper Creek and the Y and including Talkeetna. As a result of the implementation of the South Denali Plan, the industry sectors that potentially experience the most growth include automobile rental, sightseeing and ground transportation, hotels and accommodations, eating and drinking places, recreation and amusement establishments, general retail outlets and gas stations. With the exception of auto rentals, these are also the businesses that could potentially be developed in the local area.

Table 10 (p. 25) shows the approximate number of additional businesses of “average” size that could potentially be supported by this new spending in the medium and high scenarios. While the Table 10 results are based on total spending within the Borough, it is reasonable to assume that new establishments would be concentrated in the local area at one or more development nodes close to the new facilities.

To estimate additional accommodations demand, we converted spending per establishment into spending per room using the average establishment size of 13 rooms. This yields a demand for 234 additional rooms. The 75 rooms estimated to be added to accommodate new cruise tour visitors would address approximately one-third of these potential additional rooms; the planned 100 campground spaces would also be available to address the need for new overnight accommodations. This leaves a potential opportunity for approximately 40 to 60 additional rooms. Some of this additional demand would probably be served by additional business at existing Bed and Breakfast establishments or the conversion of some properties into B&B establishments. Combining all of this information yields our estimate that between 115 and 135 additional hotel rooms would be built in the high scenario.

In addition to accommodations, food and drinking places would potentially also be needed. Based on a similar analysis of how much revenue is required to support one establishment, we assume four new eating and drinking establishments under the high scenario and one new gas station mini-mart. In total, we have added an additional \$15 million of new construction of additional overnight accommodations, restaurants and a gas station for the high scenario. No additional construction is included in the medium scenario as the increased expenditures under that scenario most likely would be captured by existing businesses. As previously noted, the two scenarios bracket a range of plausible outcomes.

Estimated local area economic impacts are shown in the Table 11 (p. 26). We have estimated these impacts as a percentage of the corresponding total Mat-Su Borough economic impacts.⁹ We assume that 80% of construction and visitor center staffing jobs and 50% of additional tourism-driven jobs occur in the local area. We assume that 25% of the total income associated with these jobs – including income from multiplier effects -- accrues to local area residents.

⁹ The local area economy is too sparse to be treated as a separate region within the input-output model.

Table 10. Direct, indirect and induced output impacts of visitor expenditures and potential additional establishments in the Mat-Su Borough, medium and high scenarios

Industry	Additional Economic Output (\$)				Current Mat-Su Total Output (\$)	% increase	Business Establishments		
							Current Mat-Su number	Output per establish- ment	Potential additional
	Direct	Indirect	Induced	Total					
High Scenario									
Automotive rental & leasing	312,267	1,519	1,973	315,759	352,000	90%	5	70,400	4
Scenic & sightseeing transportation	7,789,138	188,199	24,291	8,001,628	13,195,000	61%	9	1,466,111	5
Hotels and motels	12,009,794	90,824	101,736	12,202,354	41,608,000	29%	63	660,444	18
Other amusement & recreation	1,402,361	2,743	40,326	1,445,430	6,077,000	24%	32	189,906	8
Food & drinking places	7,772,862	96,594	449,646	8,319,101	68,857,000	12%	122	564,402	15
Travel reservations	0	371,490	20,330	391,820	6,792,000	6%	--	--	--
Miscellaneous store retailers	574,277	7,124	50,726	632,127	13,302,000	5%	32	415,688	2
Gasoline stations	1,158,753	14,902	91,143	1,264,798	31,209,000	4%	23	1,356,913	1
Medium Scenario									
Automotive rental & leasing	99,405	435	539	100,379	352,000	29%	5	70,400	1
Scenic & sightseeing transportation	2,473,560	57,849	6,641	2,538,050	13,195,000	19%	9	1,466,111	2
Other amusement & recreation	754,914	592	11,027	766,533	6,077,000	13%	32	189,906	4
Hotels and motels	2,958,873	22,974	27,823	3,009,670	41,608,000	7%	63	660,444	5
Food & drinking places	1,462,948	23,420	122,957	1,609,325	68,857,000	2%	122	564,402	3
Miscellaneous store retailers	204,030	1,861	13,880	219,771	13,302,000	2%	32	415,688	1
Travel reservations	0	92,845	5,559	98,404	6,792,000	1%			
Gasoline stations	351,428	3,894	24,941	380,263	31,209,000	1%	23	1,356,913	0

Source: Economic impacts and current business activity from ISER IMPLAN projections; # of establishments from Alaska Department of Labor and Work Force Development, 2006 earnings and employment data.

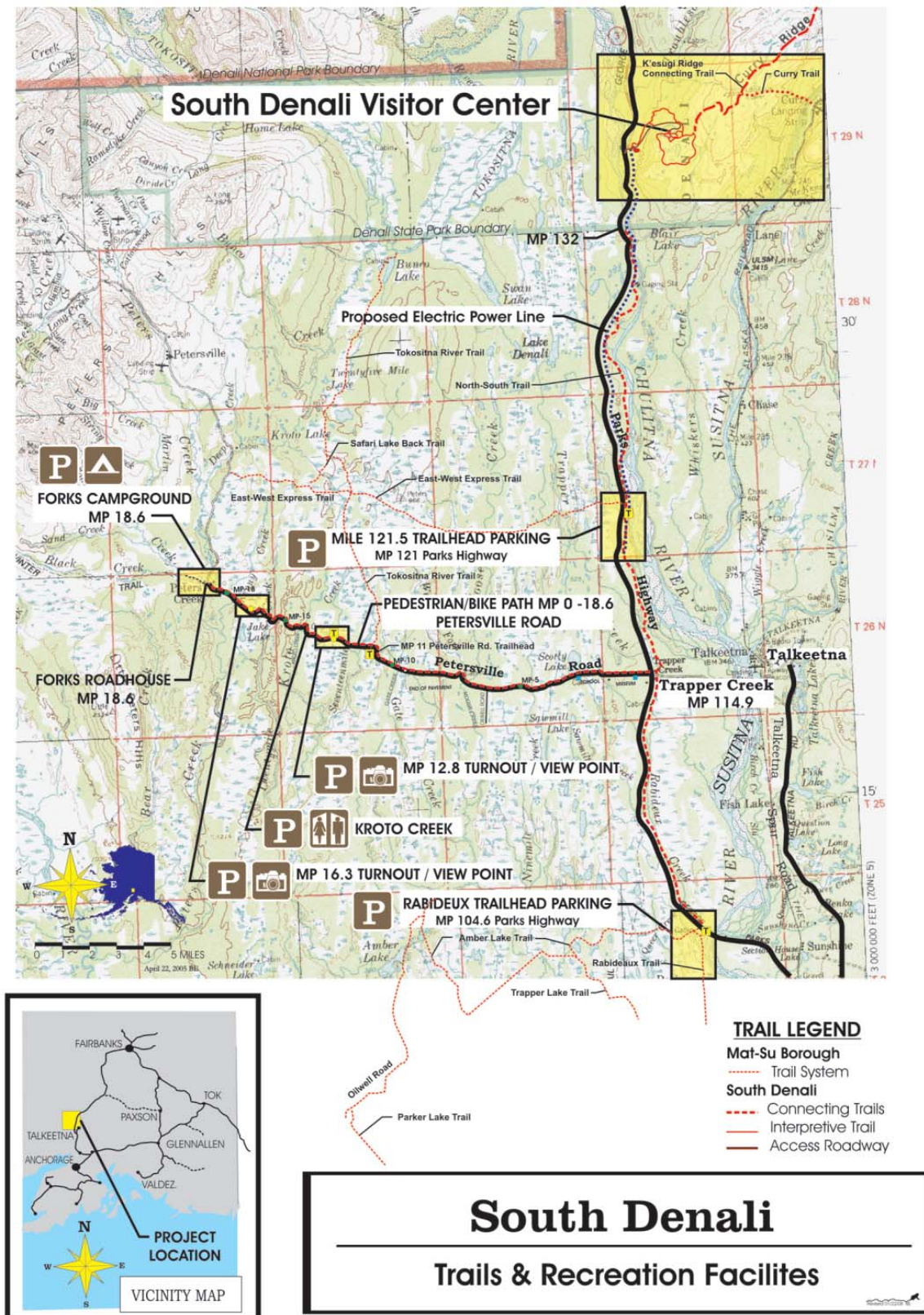
Table 11. Summary of economic impacts of the South Denali Implementation Plan on the local area*

	Total Mat-Su impact		% of total in local area	Local area impact	
	Medium	High		Medium	High
Employment (avg annual jobs)					
from Construction (2-3 years)				95	322
Visitor Facilities in the Plan	119	193	80%	95	154
Hotel rooms & other business construction	0	210	80%	0	168
from Ongoing Visitor Spending				94	337
Visitor center staffing	9	9	80%	7	7
Nonresident Visitor spending	159	478	50%	79	239
Alaska resident traveler spending	16	182	50%	8	91
Income (\$ million per yr)					
from Construction (2-3 years)	6.4	21.3	25%	1.6	5.3
from Ongoing Activity				1.4	4.7
Visitor center staffing	0.7	0.7	25%	0.2	0.2
Nonresident Visitor spending	4.7	14.2	25%	1.2	3.5
Alaska resident traveler spending	0.4	4.1	25%	0.1	1.0
New business development (# built)				Local area impact	
(impacts of this new development are included above)				Medium	High
New hotel rooms				(existing	115-135
New restaurants				business	4
New gas station mini-marts				expands)	1

*Local Area is defined as highway corridor from the northern border of Denali State Park to Trapper Creek and the Y and including Talkeetna

Source: Mat-Su Borough total impacts from ISER IMPLAN model runs based on scenarios described in text. Allocations of impacts to local area are authors' assumptions.

Map 1. Curry Ridge Visitor Center with Parks Highway and Petersville Road enhancements (high scenario)



Map 2. Curry Ridge Visitor Center site plan concept

