

SENSITIVITY CASES

For each SENSITIVITY CASE the projection model was run with one assumption changed from the BASE CASE. The 11 SENSITIVITY CASES are summarized in Table 2, and detail regarding the assumptions and results for each case are reported in the appendixes. In Table 2 we report the results for statewide employment as well as population in each of the regions of the Southern Railbelt. We report the level and annual growth rate for benchmark years as well as the difference and percent difference from the BASE CASE.

The SENSITIVITY CASES are "generic" in that they attempt to characterize in a general way what the impact of a particular event or assumption would be on the BASE CASE

projection. Clearly, however, there is a multitude of different possible ways that each of the assumptions examined in the SENSITIVITY CASE analysis could impact the BASE CASE.

Because of the interactions of model variables, the impacts of the SENSITIVITY CASES are not strictly additive, but one can get a good sense of the order of magnitude of combined events by adding their individual impacts. Likewise the SENSITIVITY CASES are not strictly symmetrical. For example, the impact of tourism expansion slower than the BASE CASE would not be precisely the mirror image of the impact of faster than BASE CASE expansion. However, again one can get a sense of the order of magnitude of the impact if the assumption were reversed.

TABLE 2. PART A. MAP MODEL PROJECTION SENSITIVITY ANALYSIS

| | TOTAL STATE EMPLOYMENT (000) | | | | AVERAGE ANNUAL GROWTH RATE | | |
|------------------------------------|------------------------------|--------|--------|--------|----------------------------|---------|--------|
| | 2000 | 2010 | 2020 | 2030 | 2010 | 2020 | 2030 |
| Base Case | 395.0 | 439.1 | 482.2 | 552 | 1.1% | 0.9% | 1.4% |
| 1 Kenai Gas Manufacturing Shutdown | | 438.1 | 480 | 549.5 | 1.0% | 0.9% | 1.4% |
| 2 High Federal Spending | | 463.2 | 505.8 | 576.7 | 1.6% | 0.9% | 1.3% |
| 3 Rapid Tourism Expansion | | 441.8 | 493 | 574.8 | 1.1% | 1.1% | 1.5% |
| 4 High Oil Revenues | | 441.8 | 495.5 | 556.6 | 1.1% | 1.2% | 1.2% |
| 5 Population Shift Toward Matsu | | 439.1 | 482.2 | 552 | 1.1% | 0.9% | 1.4% |
| 6 Rapid Retiree Growth | | 440.8 | 489.8 | 566.9 | 1.1% | 1.1% | 1.5% |
| 7 Slow Growth of US Productivity | | 436.7 | 468.3 | 516.8 | 1.0% | 0.7% | 1.0% |
| 8 Rapid Mining Sector Growth | | 439.8 | 486.5 | 561.6 | 1.1% | 1.0% | 1.4% |
| 9 AK Highway Gas Line | | 440.5 | 491 | 558.2 | 1.1% | 1.1% | 1.3% |
| 10 Military Base Closure | | 435.3 | 451.2 | 519.8 | 1.0% | 0.4% | 1.4% |
| 11 Knik Arm Crossing | | 442.5 | 482.1 | 551.8 | 1.1% | 0.9% | 1.4% |
| Difference from Base Case | | | | | | | |
| 1 Kenai Gas Manufacturing Shutdown | | -1.0 | -2.2 | -2.5 | -0.0% | -0.0% | 0.0% |
| 2 High Federal Spending | | 24.1 | 23.6 | 24.7 | 0.5% | -0.1% | -0.0% |
| 3 Rapid Tourism Expansion | | 2.7 | 10.8 | 22.8 | 0.1% | 0.2% | 0.2% |
| 4 High Oil Revenues | | 2.7 | 13.3 | 4.6 | 0.1% | 0.2% | -0.2% |
| 5 Population Shift Toward Matsu | | 0.0 | 0.0 | 0.0 | 0.0% | 0.0% | 0.0% |
| 6 Rapid Retiree Growth | | 1.7 | 7.6 | 14.9 | 0.0% | 0.1% | 0.1% |
| 7 Slow Growth of US Productivity | | -2.4 | -13.9 | -35.2 | -0.1% | -0.2% | -0.4% |
| 8 Rapid Mining Sector Growth | | 0.7 | 4.3 | 9.6 | 0.0% | 0.1% | 0.1% |
| 9 AK Highway Gas Line | | 1.4 | 8.8 | 6.2 | 0.0% | 0.2% | -0.1% |
| 10 Military Base Closure | | -3.8 | -31.0 | -32.2 | -0.1% | -0.6% | 0.1% |
| 11 Knik Arm Crossing | | 3.4 | -0.1 | -0.2 | 0.1% | -0.1% | -0.0% |
| Percent Difference from Base Case | | | | | | | |
| 1 Kenai Gas Manufacturing Shutdown | | -0.23% | -0.46% | -0.45% | -2.2% | -2.5% | 0.0% |
| 2 High Federal Spending | | 5.50% | 4.90% | 4.50% | 33.7% | -6.5% | -3.1% |
| 3 Rapid Tourism Expansion | | 0.61% | 2.19% | 3.97% | 5.5% | 14.7% | 12.0% |
| 4 High Oil Revenues | | 0.61% | 2.68% | 0.83% | 5.5% | 18.5% | -16.4% |
| 5 Population Shift Toward Matsu | | 0.00% | 0.00% | 0.00% | 0.0% | 0.0% | 0.0% |
| 6 Rapid Retiree Growth | | 0.39% | 1.55% | 2.63% | 3.5% | 11.2% | 7.6% |
| 7 Slow Growth of US Productivity | | -0.55% | -2.97% | -6.81% | -5.5% | -34.2% | -37.4% |
| 8 Rapid Mining Sector Growth | | 0.16% | 0.88% | 1.71% | 1.5% | 7.3% | 5.9% |
| 9 AK Highway Gas Line | | 0.32% | 1.79% | 1.11% | 2.9% | 13.8% | -5.4% |
| 10 Military Base Closure | | -0.87% | -6.87% | -6.19% | -9.0% | -161.7% | 4.5% |
| 11 Knik Arm Crossing | | 0.77% | -0.02% | -0.04% | 6.8% | -9.3% | -0.1% |

TABLE 2. PART B. MAP MODEL PROJECTION SENSITIVITY ANALYSIS

| ANCHORAGE POPULATION (000) | LEVEL | | | | AVERAGE ANNUAL GROWTH RATE | | |
|------------------------------------|-------|--------|--------|--------|----------------------------|---------|--------|
| | 2000 | 2010 | 2020 | 2030 | 2010 | 2020 | 2030 |
| Base Case | 260.3 | 293.6 | 329.6 | 373.3 | 1.2% | 1.2% | 1.3% |
| 1 Kenai Gas Manufacturing Shutdown | | 293.8 | 329 | 372.6 | 1.2% | 1.1% | 1.3% |
| 2 High Federal Spending | | 311.3 | 346.2 | 391.6 | 1.8% | 1.1% | 1.2% |
| 3 Rapid Tourism Expansion | | 295.1 | 335.3 | 384.3 | 1.3% | 1.3% | 1.4% |
| 4 High Oil Revenues | | 295.1 | 338.8 | 376.8 | 1.3% | 1.4% | 1.1% |
| 5 Population Shift Toward Matsu | | 290.4 | 317.9 | 349 | 1.1% | 0.9% | 0.9% |
| 6 Rapid Retiree Growth | | 295.9 | 338.8 | 389.4 | 1.3% | 1.4% | 1.4% |
| 7 Slow Growth of US Productivity | | 291.9 | 319.6 | 349.4 | 1.2% | 0.9% | 0.9% |
| 8 Rapid Mining Sector Growth | | 293.9 | 332.6 | 379.9 | 1.2% | 1.2% | 1.3% |
| 9 AK Highway Gas Line | | 294.3 | 334.5 | 377.1 | 1.2% | 1.3% | 1.2% |
| 10 Military Base Closure | | 291.6 | 301.5 | 343.7 | 1.1% | 0.3% | 1.3% |
| 11 Knik Arm Crossing | | 294.3 | 319.3 | 344.1 | 1.2% | 0.8% | 0.8% |
| Difference from Base Case | | | | | | | |
| 1 Kenai Gas Manufacturing Shutdown | | 0.2 | -0.6 | -0.7 | 0.0% | -0.0% | -0.0% |
| 2 High Federal Spending | | 17.7 | 16.6 | 18.3 | 0.6% | -0.1% | -0.0% |
| 3 Rapid Tourism Expansion | | 1.5 | 5.7 | 11.0 | 0.1% | 0.1% | 0.1% |
| 4 High Oil Revenues | | 1.5 | 9.2 | 3.5 | 0.1% | 0.2% | -0.2% |
| 5 Population Shift Toward Matsu | | -3.2 | -11.7 | -24.3 | -0.1% | -0.3% | -0.3% |
| 6 Rapid Retiree Growth | | 2.3 | 9.2 | 16.1 | 0.1% | 0.2% | 0.1% |
| 7 Slow Growth of US Productivity | | -1.7 | -10.0 | -23.9 | -0.1% | -0.3% | -0.4% |
| 8 Rapid Mining Sector Growth | | 0.3 | 3.0 | 6.6 | 0.0% | 0.1% | 0.1% |
| 9 AK Highway Gas Line | | 0.7 | 4.9 | 3.8 | 0.0% | 0.1% | -0.0% |
| 10 Military Base Closure | | -2.0 | -28.1 | -29.6 | -0.1% | -0.8% | 0.1% |
| 11 Knik Arm Crossing | | 0.7 | -10.3 | -29.2 | 0.0% | -0.3% | -0.5% |
| Percent Difference from Base Case | | | | | | | |
| 1 Kenai Gas Manufacturing Shutdown | | 0.07% | -0.18% | -0.19% | 0.6% | -2.2% | -0.0% |
| 2 High Federal Spending | | 5.69% | 4.79% | 4.67% | 32.9% | -8.9% | -1.0% |
| 3 Rapid Tourism Expansion | | 0.51% | 1.70% | 2.86% | 4.1% | 9.5% | 8.8% |
| 4 High Oil Revenues | | 0.51% | 2.72% | 0.93% | 4.1% | 16.3% | -17.2% |
| 5 Population Shift Toward Matsu | | -1.10% | -3.68% | -6.96% | -10.1% | -28.0% | -33.6% |
| 6 Rapid Retiree Growth | | 0.78% | 2.72% | 4.13% | 6.1% | 14.7% | 10.6% |
| 7 Slow Growth of US Productivity | | -0.58% | -3.13% | -6.84% | -5.1% | -27.7% | -39.9% |
| 8 Rapid Mining Sector Growth | | 0.10% | 0.90% | 1.74% | 0.8% | 6.5% | 6.4% |
| 9 AK Highway Gas Line | | 0.24% | 1.46% | 1.01% | 2.0% | 9.7% | -3.9% |
| 10 Military Base Closure | | -0.69% | -9.32% | -8.61% | -6.1% | -247.9% | 5.0% |
| 11 Knik Arm Crossing | | 0.24% | -3.23% | -8.49% | 2.0% | -42.1% | -66.9% |

TABLE 2. PART C. MAP MODEL PROJECTION SENSITIVITY ANALYSIS

| MATSU POPULATION (000) | LEVEL | | | | AVERAGE ANNUAL GROWTH RATE | | |
|------------------------------------|-------|--------|--------|---------|----------------------------|--------|--------|
| | 2000 | 2010 | 2020 | 2030 | 2010 | 2020 | 2030 |
| Base Case | 59.3 | 84.2 | 113.7 | 156.3 | 3.6% | 3.0% | 3.2% |
| 1 Kenai Gas Manufacturing Shutdown | | 84.3 | 113.7 | 156.3 | 3.6% | 3.0% | 3.2% |
| 2 High Federal Spending | | 88.1 | 116.8 | 160.7 | 4.0% | 2.9% | 3.2% |
| 3 Rapid Tourism Expansion | | 85.1 | 118 | 166.9 | 3.7% | 3.3% | 3.5% |
| 4 High Oil Revenues | | 84.4 | 119 | 158.5 | 3.6% | 3.5% | 2.9% |
| 5 Population Shift Toward Matsu | | 88.5 | 129.9 | 190.4 | 4.1% | 3.9% | 3.9% |
| 6 Rapid Retiree Growth | | 85.1 | 118.1 | 165.9 | 3.7% | 3.3% | 3.5% |
| 7 Slow Growth of US Productivity | | 83.4 | 108.4 | 141.6 | 3.5% | 2.7% | 2.7% |
| 8 Rapid Mining Sector Growth | | 84.3 | 114.8 | 159.3 | 3.6% | 3.1% | 3.3% |
| 9 AK Highway Gas Line | | 84.6 | 116.9 | 159.2 | 3.6% | 3.3% | 3.1% |
| 10 Military Base Closure | | 85.1 | 114.4 | 157.4 | 3.7% | 3.0% | 3.2% |
| 11 Knik Arm Crossing | | 87.8 | 127.5 | 196.8 | 4.0% | 3.8% | 4.4% |
| Difference from Base Case | | | | | | | |
| 1 Kenai Gas Manufacturing Shutdown | | 0.1 | 0.0 | 0.0 | 0.0% | -0.0% | 0.0% |
| 2 High Federal Spending | | 3.9 | 3.1 | 4.4 | 0.5% | -0.2% | 0.0% |
| 3 Rapid Tourism Expansion | | 0.9 | 4.3 | 10.6 | 0.1% | 0.3% | 0.3% |
| 4 High Oil Revenues | | 0.2 | 5.3 | 2.2 | 0.0% | 0.4% | -0.3% |
| 5 Population Shift Toward Matsu | | 4.3 | 16.2 | 34.1 | 0.5% | 0.9% | 0.7% |
| 6 Rapid Retiree Growth | | 0.9 | 4.4 | 9.6 | 0.1% | 0.3% | 0.2% |
| 7 Slow Growth of US Productivity | | -0.8 | -5.3 | -14.7 | -0.1% | -0.4% | -0.5% |
| 8 Rapid Mining Sector Growth | | 0.1 | 1.1 | 3.0 | 0.0% | 0.1% | 0.1% |
| 9 AK Highway Gas Line | | 0.4 | 3.2 | 2.9 | 0.0% | 0.2% | -0.1% |
| 10 Military Base Closure | | 0.9 | 0.7 | 1.1 | 0.1% | -0.0% | 0.0% |
| 11 Knik Arm Crossing | | 3.6 | 13.8 | 40.5 | 0.4% | 0.8% | 1.2% |
| Percent Difference from Base Case | | | | | | | |
| 1 Kenai Gas Manufacturing Shutdown | | 0.12% | 0.00% | 0.00% | 0.3% | -0.4% | 0.0% |
| 2 High Federal Spending | | 4.43% | 2.65% | 2.74% | 11.6% | -6.6% | 0.3% |
| 3 Rapid Tourism Expansion | | 1.06% | 3.64% | 6.35% | 3.0% | 8.2% | 8.4% |
| 4 High Oil Revenues | | 0.24% | 4.45% | 1.39% | 0.7% | 12.8% | -11.2% |
| 5 Population Shift Toward Matsu | | 4.86% | 12.47% | 17.91% | 12.7% | 22.1% | 17.0% |
| 6 Rapid Retiree Growth | | 1.06% | 3.73% | 5.79% | 3.0% | 8.5% | 6.5% |
| 7 Slow Growth of US Productivity | | -0.96% | -4.89% | -10.38% | -2.8% | -14.8% | -19.4% |
| 8 Rapid Mining Sector Growth | | 0.12% | 0.96% | 1.88% | 0.3% | 2.8% | 2.9% |
| 9 AK Highway Gas Line | | 0.47% | 2.74% | 1.82% | 1.4% | 7.2% | -3.1% |
| 10 Military Base Closure | | 1.06% | 0.61% | 0.70% | 3.0% | -1.5% | 0.3% |
| 11 Knik Arm Crossing | | 4.10% | 10.82% | 20.58% | 10.9% | 19.8% | 27.1% |

TABLE 2. PART D. MAP MODEL PROJECTION SENSITIVITY ANALYSIS

| KENAI POPULATON (000) | LEVEL | | | | AVERAGE ANNUAL GROWTH RATE | | |
|------------------------------------|-------|--------|--------|--------|----------------------------|--------|--------|
| | 2000 | 2010 | 2020 | 2030 | 2010 | 2020 | 2030 |
| Base Case | 49.7 | 54.5 | 62.5 | 72.2 | 0.9% | 1.4% | 1.5% |
| 1 Kenai Gas Manufacturing Shutdown | | 52.9 | 59.5 | 68.9 | 0.6% | 1.2% | 1.5% |
| 2 High Federal Spending | | 57.5 | 65.3 | 75.4 | 1.5% | 1.3% | 1.4% |
| 3 Rapid Tourism Expansion | | 54.8 | 63.9 | 75.2 | 1.0% | 1.5% | 1.6% |
| 4 High Oil Revenues | | 54.7 | 64.2 | 72.9 | 1.0% | 1.6% | 1.3% |
| 5 Population Shift Toward Matsu | | 54.3 | 61.7 | 70.4 | 0.9% | 1.3% | 1.3% |
| 6 Rapid Retiree Growth | | 54.9 | 64.2 | 75.3 | 1.0% | 1.6% | 1.6% |
| 7 Slow Growth of US Productivity | | 54.1 | 60.4 | 67.3 | 0.9% | 1.1% | 1.1% |
| 8 Rapid Mining Sector Growth | | 54.5 | 63.1 | 73.5 | 0.9% | 1.5% | 1.5% |
| 9 AK Highway Gas Line | | 54.6 | 63.6 | 73.2 | 0.9% | 1.5% | 1.4% |
| 10 Military Base Closure | | 54.8 | 61.9 | 71.6 | 1.0% | 1.2% | 1.5% |
| 11 Knik Arm Crossing | | 54.3 | 61.8 | 70.1 | 0.9% | 1.3% | 1.3% |
| Difference from Base Case | | | | | | | |
| 1 Kenai Gas Manufacturing Shutdown | | -1.6 | -3.0 | -3.3 | -0.3% | -0.2% | 0.0% |
| 2 High Federal Spending | | 3.0 | 2.8 | 3.2 | 0.5% | -0.1% | -0.0% |
| 3 Rapid Tourism Expansion | | 0.3 | 1.4 | 3.0 | 0.1% | 0.2% | 0.2% |
| 4 High Oil Revenues | | 0.2 | 1.7 | 0.7 | 0.0% | 0.2% | -0.2% |
| 5 Population Shift Toward Matsu | | -0.2 | -0.8 | -1.8 | -0.0% | -0.1% | -0.1% |
| 6 Rapid Retiree Growth | | 0.4 | 1.7 | 3.1 | 0.1% | 0.2% | 0.2% |
| 7 Slow Growth of US Productivity | | -0.4 | -2.1 | -4.9 | -0.1% | -0.3% | -0.4% |
| 8 Rapid Mining Sector Growth | | 0.0 | 0.6 | 1.3 | 0.0% | 0.1% | 0.1% |
| 9 AK Highway Gas Line | | 0.1 | 1.1 | 1.0 | 0.0% | 0.2% | -0.0% |
| 10 Military Base Closure | | 0.3 | -0.6 | -0.6 | 0.1% | -0.2% | 0.0% |
| 11 Knik Arm Crossing | | -0.2 | -0.7 | -2.1 | -0.0% | -0.1% | -0.2% |
| Percent Difference from Base Case | | | | | | | |
| 1 Kenai Gas Manufacturing Shutdown | | -3.02% | -5.04% | -4.79% | -48.0% | -16.6% | 1.7% |
| 2 High Federal Spending | | 5.22% | 4.29% | 4.24% | 36.9% | -7.7% | -0.3% |
| 3 Rapid Tourism Expansion | | 0.55% | 2.19% | 3.99% | 5.6% | 10.9% | 11.5% |
| 4 High Oil Revenues | | 0.37% | 2.65% | 0.96% | 3.8% | 14.6% | -13.6% |
| 5 Population Shift Toward Matsu | | -0.37% | -1.30% | -2.56% | -4.2% | -7.3% | -9.4% |
| 6 Rapid Retiree Growth | | 0.73% | 2.65% | 4.12% | 7.4% | 12.6% | 9.6% |
| 7 Slow Growth of US Productivity | | -0.74% | -3.48% | -7.28% | -8.7% | -24.5% | -33.6% |
| 8 Rapid Mining Sector Growth | | 0.00% | 0.95% | 1.77% | 0.0% | 6.6% | 5.5% |
| 9 AK Highway Gas Line | | 0.18% | 1.73% | 1.37% | 2.0% | 10.3% | -2.6% |
| 10 Military Base Closure | | 0.55% | -0.97% | -0.84% | 5.6% | -12.5% | 0.9% |
| 11 Knik Arm Crossing | | -0.37% | -1.13% | -3.00% | -4.2% | -5.9% | -14.6% |