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The Mat-Su Borough in 2040: What Would Residents Like to See?

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Many residents of the Mat-Su Borough were attracted to the area by its rural character: low-density population, salmon streams, opportunities for recreation and hunting in undeveloped areas, and food produced by local farmers. With rapid population growth, these characteristics have been changing, and they will likely continue to change without policies to maintain or restore them.

But residents can influence such change, by letting policymakers know what they value. What do Mat-Su residents want their area to look like in 2040? What value do they place on rural character and recreation opportunities? What would they be willing to pay to maintain or restore those characteristics? These are important questions for people in the borough, which borders Anchorage on the north. It has for decades been the fastest-growing area in Alaska, with a current population five times what it was in 1980.[1]

As a step toward finding out how much residents value specific characteristics, we did a survey, asking residents to choose among various hypothetical alternatives for future land use and development, with different costs for each alternative. We analyzed their responses with a statistical model, estimating what each household, and all borough households in total, would be willing to pay for given choices. Analysts call this a "stated preference technique." It's a good way to value non-market resources, like salmon in a stream, or access to hiking or snowmachine trails. We found:

• *Mat-Su residents put a high value on things that attracted them to the borough in the first place*, with their overall willingness to pay from $20 million a year for protecting recreation access to $54 million a year for restoring salmon runs.

• *But residents would not pay—and in fact would want to be paid—for changes they felt decreased their well-being* (as shown by negative numbers in Figure 1). In particular, they do not want to see very fast population growth in the coming years.

These findings show that many Mat-Su residents are concerned about current trends and are willing to help pay for actions that would maintain the quality of life they—and the hundreds of thousands of visitors to the area each year—find so appealing.

Figure 1. What Would Mat-Su Residents Be Willing To Pay for Policies To Change Current Trends?
(Annual Amounts for all Mat-Su Households, Based on Weighted Average of Survey Responses[a])

Existing Trend	New Action to Change Trend	How Much Residents Would Pay for the Change[b]	
• No action to stop salmon decline	• Stop salmon decline	Fully restore salmon runs Maintain current salmon numbers	**$54 million** **$27 million**
• Conversion of farmland continues	• Discourage conversion of farmland	Keep existing and add more farmland Keep existing farmland	**$34 million** **$28 million**
• No action to protect recreation access	• Improve access to recreation	Expand access to recreation[c] Protect current access	**$22 million** **$20 million**
• No policies to encourage specific industries	• Change policies for local development	Encourage *local* professional jobs Encourage *local* resource-extraction jobs	**$3 million** **–$16 million**
• Population grows at current rate, doubling by 2040.	• Population grows faster, tripling by 2040	Very fast population growth: 270,000 residents by 2040	**–$33 million**

[a] Completed surveys totaled 224. We estimated total willingness to pay for all Mat-Su households by weighting for differences in characteristics of respondents and all borough residents (see Table 1.)
[b] Standard deviation from top to bottom, in millions of dollars: $11, $5, $7, $6, $4, $3, $4, $22, n/a (fixed parameter). [c] $20 million for non-motorized access and $2 million for motorized access.

How Fast Has the Borough Grown?

The Matanuska-Susitna Borough is 25,000 square miles, with about 95% of the land in state and federal ownership. The 2012 population was around 90,000, or 13% of the total state population. That compares with a population of just 18,000 in 1980 (Figures 2 and 3).

Figure 2. The Mat-Su Borough, Anchorage, and Alaska

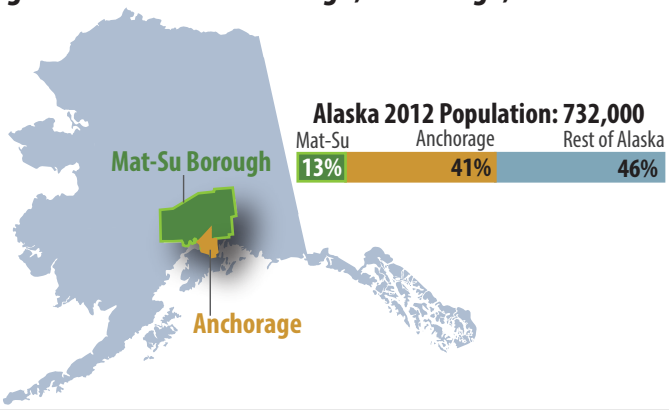
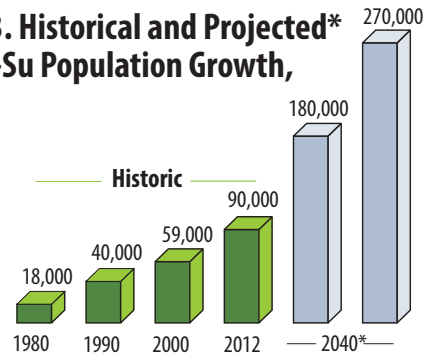


Figure 3. Historical and Projected* Mat-Su Population Growth,



*Population levels used in survey questions; 180,000 is the 2040 population if growth continues at roughly the rate (more than 2% annually) the Alaska Department of Labor currently projects, and 270,000, if population grew at 3.9% annually.

Sources: U.S. Bureau of the Census; Alaska Department of Labor

What Concerns Borough Residents?

Before surveying Mat-Su residents, we held focus groups in five communities—Houston, Palmer, Wasilla, Sutton, and Talkeetna—to ask residents what changes were on their minds. We also interviewed representatives of businesses and non-profit organizations with interests in land-use issues. Many told us they are thinking about what a growing population and more economic development will mean for the borough—how fast will it grow, and what will be the nature of the development? They also frequently cited specific concerns:

• *Some salmon runs in Mat-Su rivers and streams are dwindling.* The Alaska Department of Fish and Game has designated thirteen Alaska salmon stocks as "of concern"—meaning they are declining and in danger of not being able to sustain themselves. Seven of these are in the Mat-Su.[2] Causes of the decline are not fully understood, but changes in the marine environment, effects of commercial fishing, and changes in habitat are among those commonly cited.[3]

• *Farmland is being converted to residential and other uses*. Some of the same qualities that make for good farmland—flat ground and stable soils—also make for good building foundations. Anyone who has driven around the Palmer area in the past three decades knows that a significant area of farmland has been converted—but there are no available data on just how much, or what percentage of total farm acreage it represents.

• *Many trails used for recreation and other purposes can be reached only by traditional but unprotected easements across private lands.* Because they are not publicly owned, they exist at the discretion of private owners—and might be closed when property changes hands.

Study Methods

Based on what we learned in the focus groups, we used a "stated preference technique" to estimate how much Mat-Su Borough residents would be willing to pay for land use or development policies that would change current trends.

We designed a survey that asked respondents to consider eleven scenarios, each of which included three hypothetical future land use or development alternatives. In all the scenarios, one alternative was continuing the current trend and the other two involved taking actions to change the trend. We assigned an annual cost to each alternative—an amount somewhere between zero and $200, which the respondent's household would hypothetically have to pay annually for taking the actions necessary to achieve that alternative.

Then, we used a statistical model to analyze each response, to determine an overall average value for specific choices. We weighted the survey responses to represent likely responses of all borough households, to estimate the total annual dollar amounts households indicated they would pay for specific choices, as shown in Figure 1 (front page). In some cases, as we noted earlier, that value turned out to be negative—meaning that respondents felt a change would decrease their well-being and they would want to be paid, rather than to pay.

The overall values we cite are based on the *average* amounts respondents indicated they would pay for each of the alternatives. But some respondents were willing to pay much more or less than others for specific policies. Figure 4 shows examples of the high and low range of annual amounts individual respondents indicated they would pay for fully restoring salmon runs, keeping existing and adding more farmland, and expanding access to non-motorized recreation.

Keep in mind that the amounts respondents indicated they would pay are hypothetical: no actual payment was involved. But our analysis showed that respondents with lower incomes indicated that they would pay smaller amounts for alternatives they preferred. Such choices show that even though the payments were hypothetical, respondents were taking into account how much they would actually be able to pay, based on their incomes.

Survey Size and Response Rate

We first mailed 1,400 surveys to a stratified, random sample of borough residents—a sample designed to be geographically representative and to reflect characteristics of the entire Mat-Su population.

But 181 were returned as undeliverable, reducing the potential sample to 1,219. Of those, 332 people who received them responded, but only 224 completed the entire survey. We could analyze only completed surveys, so the final response rate was 19%.[4]

Table 1 (back page) compares characteristics of the respondents and all borough residents. On average, survey respondents were somewhat older, better educated, more likely to be homeowners, and more likely to hunt and fish.

We were able to calculate weights based on differences between the respondents and all borough residents by household income and participation in hunting and fishing. We applied these weights to the data, taking into account geographic representation, to estimate how much borough residents as a whole valued specific land use and development alternatives.

How Do Household Preferences and Values Vary?

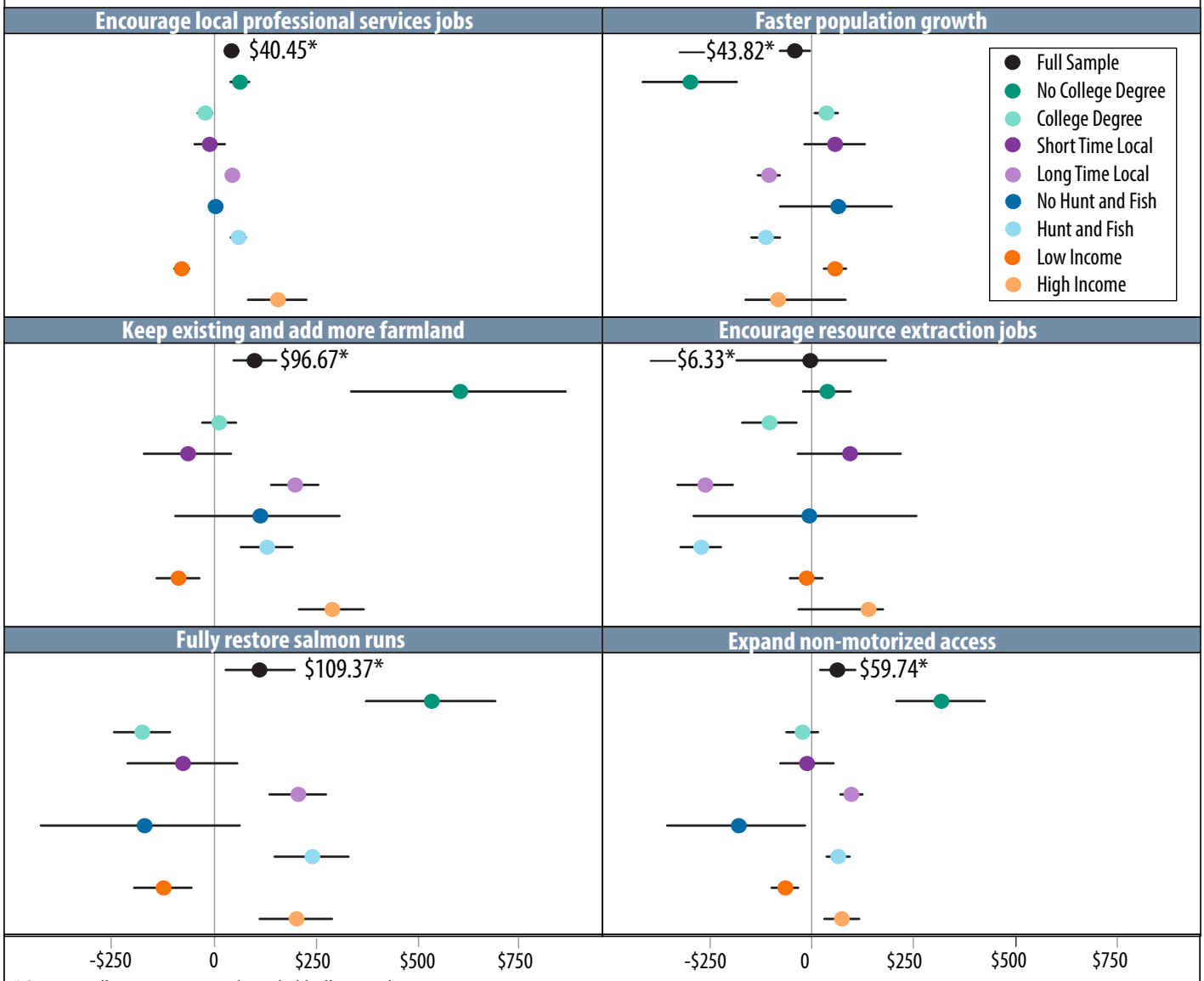
Figure 4 shows willingness to pay of all households in our sample, and of different groups within the sample, for six land use and development actions. We first estimated each responding household's annual willingness to pay for each policy. This willingness to pay is not only a monetary measure but also a measure of respondents' preferences. We then grouped all sampled households according to educational attainment (college or no college), years lived in the Mat-Su (more or less than 19 years), participation in hunting and fishing, and annual household income (more or less than $75,000).

The average annual willingness to pay is indicated by circles, with the black line corresponding to a 95% confidence interval for the estimated mean average for a household in the group. The further the line extends on both sides of the circle, the more household responses varied within the group; the shorter the line, the less they varied.

For example, we estimated respondents would be willing to pay on average $109 per household annually for actions aimed at fully restoring salmon runs. But responses ranged from a low of $27 to a high of $194.

Figure 4. Annual Willingness to Pay per Household, by Income, Education, and Other Characteristics

(Average of Survey Responses and 95% Confidence Interval)



* Average willingness to pay per household, all respondents.

Note: Average willingness to pay shown by circles, with bars representing 95% confidence interval. Sample sizes: Full sample, n=224; college degree, n=118; no college degree, n=106; short-time local (less than 19 years in Mat-Su), n=96; long-time local (more than 19 years in Mat-Su), n=128; do not hunt or fish (n=41); do hunt or fish (n=183); high annual household income (more than $75,000), n=114; and low annual household income (less than $75,000), n=110.

Among the six policies shown in Figure 4:

• Preferences were most aligned for development policies encouraging growth in local professional services jobs.

• Groups strongly opposing faster than expected population growth were those without college degrees, long-time locals, those who hunt and fish, and those with high incomes.

• Most groups were in favor of protecting current and potential future farmland. The exceptions were short-time residents and low-income households. Respondents without college education valued farmland the highest, but the range of responses within that group was also the widest, compared with other groups.

• Groups were most divided on questions about fully restoring local salmon runs and encouraging creation of more local resource extraction jobs. Respondents who had lived in the Mat-Su more than 19 years and those who hunt and fish opposed creating local resource extraction jobs, but strongly supported actions aimed at fully restoring salmon stocks.

• Respondents who supported expanding non-motorized access to recreation came from several groups: those who hunt and fish, are long-time residents, have high incomes, and lack college degrees.

Table 1. Characteristics of Respondents and All Mat-Su Residents

	Respondents (224)	All Residents (90,000)
Annual household income	$78,000	$81,000
Median Age[a]	58	47
Race		
White	92%	91%
Other races	8%	9%
Sex		
Male	57%	52%
Female	43%	48%
Educational attainment[b]		
At least high school	98%	92%
Bachelor's or master's degree	47%	21%
Households owning homes	93%	68%
Have hunting and fishing licenses [a]		
Hunting licenses	66%	30%
Fishing licenses	82%	46%

[a]Among people 18 and older [b]Among people 25 and older

Sources: Mat-Su 2040 survey; American Community Survey; Alaska Department of Fish and Game

Conclusions

Our survey told us that Mat-Su residents place a high value on protecting the rural character of the area. They put the highest value on fully restoring salmon runs and keeping farmland as farmland. Conversely, as reflected in the negative values in Figure 1, they don't favor actions that would encourage very fast population growth or add local resource-extraction jobs. That doesn't necessarily mean Mat-Su residents are against resource development: they may just not want it in their neighborhoods or recreation sites.

The survey did not specify how residents might pay the amounts they said they would pay, if such payments were actual rather than hypothetical. Payments could be made through various kinds of taxes, voluntary contributions, or other methods.

The state government owns nearly two-thirds of the land in the borough and will have a big role in future land use decisions, as will the federal government, which owns most of the rest of the land. Public agencies could consider methods other than taxes to support specific land-use policies—for example, fees on sport-fishing licenses or commercial fish tickets to support restoration of salmon habitat.

Forming public/private partnerships is another way to put in place actions borough residents say they want. For example, our analysis shows that residents would like the amount of current farmland maintained or even expanded. But farmlands are private—and those lands can be very valuable for residential developments. Farmers may need incentives to hold on to such valuable property.

Economic incentives for private landowners could also help preserve something else residents say they want—access to recreation—since access to many trails is not currently protected by public easements. Public and private entities would need to work together to find ways of creating such incentives—for example, a system of payments to private landowners. Those kinds of payments to private owners preserve farmland and protect easements for recreation access in many other states.

Overall, these survey results can serve as a benchmark for creating economic incentives to help maintain the unique characteristics and quality of life in the Mat-Su Borough. They may also help decision-makers and the general public consider actions that will influence how the Mat-Su region looks in 2040.

Endnotes

1. Fried, N. 2013. The Matanuska-Susitna Boom: Borough's growth continues to eclipse rest of state. Alaska Department of Labor and Workforce Development.
2. Munro, A.R. and Volk, E.C. 2013. Summary of Pacific Salmon Escapement Goals in Alaska with a Review of Escapements from 2004-2012. Alaska Department of Fish and Game.
3. Knowles, B. et al. 2011. Upper Cook Inlet Fishery Issues and Recommendations. Mat-Su Borough Mayor's Blue Ribbon Sportsmen's Committee.
4. To get a higher response rate for future surveys, we will re-assess both the way we administer surveys and their length.

For more information about the study and methods, get in touch with Tobias Schwörer at tschwoerer@alaska.edu. Technical documentation of the survey and analysis of data can be found on ISER's website, www.iser.uaa.alaska.edu.

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Graphics: Clemencia Merrill