

The Center for Community Studies  
At Jefferson Community College

## Presentation of Results



2019

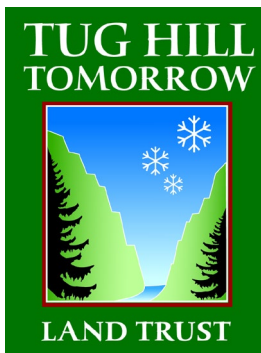


Mr. Joel LaLone, Research Director  
Mr. Lawrence Danforth, Research Coordinator

## MADE POSSIBLE WITH FUNDING FROM



North Shore Council of Governments



Salmon Rivers Council of Governments





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**Executive Director**

Katie Malinowski

October 11, 2019

Richard Colesante

Chairman, North Shore Council of Governments

46 Tannery Road

Constantia, NY 13044

Dear Rip,

I am very happy to provide the North Shore Council of Governments (NorCOG) this individualized report from the 2019 Tug Hill Resident and Landowner Survey. I hope that NorCOG finds the information useful. The most interesting part of the data is the comparison between responses from 2009 to 2019. I sincerely appreciate NorCOG's financial assistance in making this analysis possible.

Joel Lalone, the Center for Community Studies Research Director, will present the survey results at the commission's annual dinner on November 7, 2019 at the Tug Hill Vineyards. He is a very energetic and engaging speaker, and will have unique insights to share. I hope some council members can join us there.

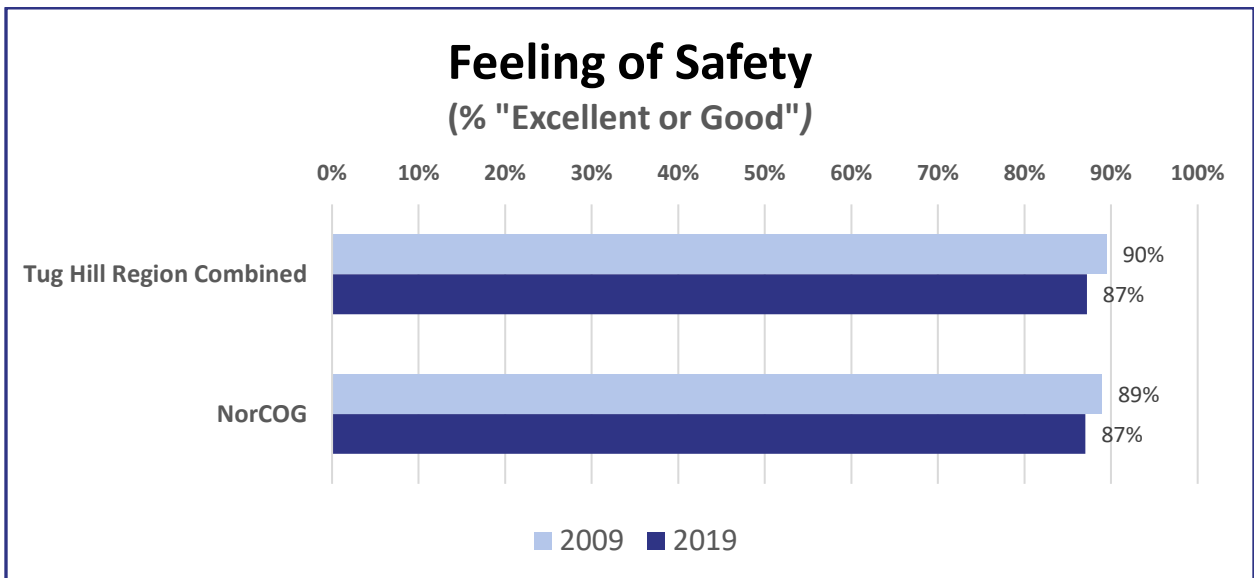
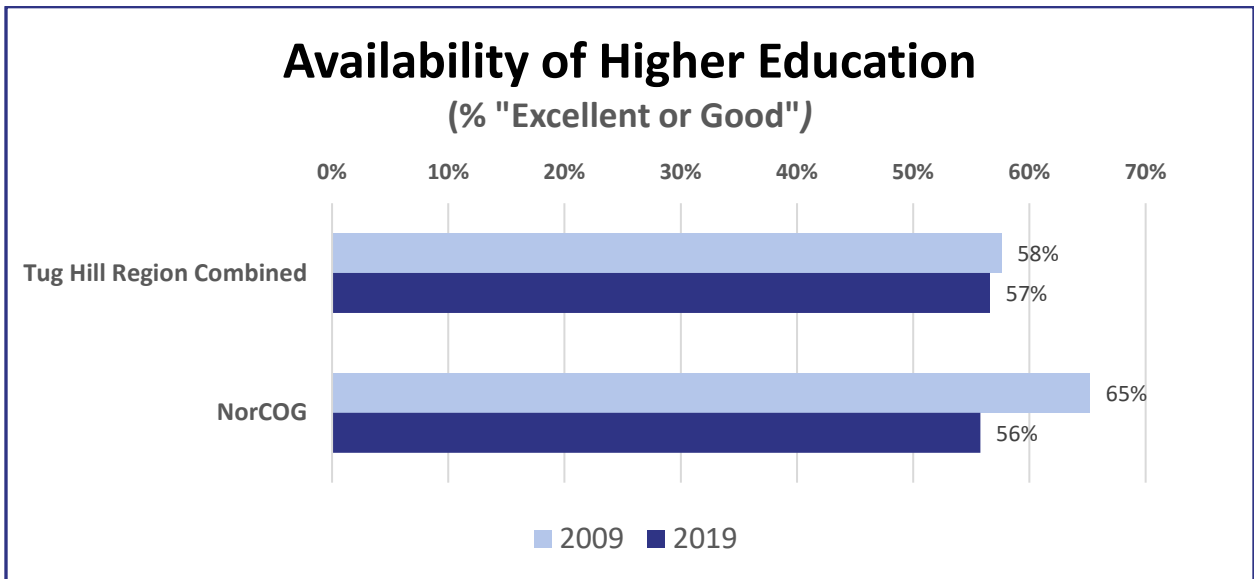
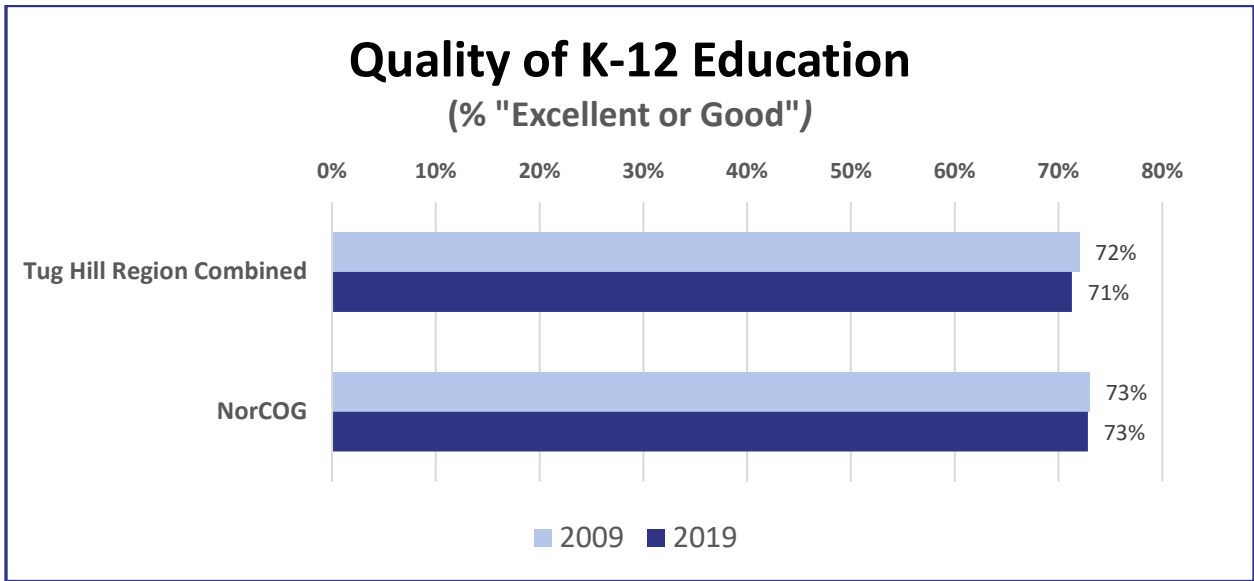
The full report will be available on the commission's website, [www.tughill.org](http://www.tughill.org), soon. Please do not hesitate to contact me if you have any questions about the results.

Sincerely,

Katie Malinowski

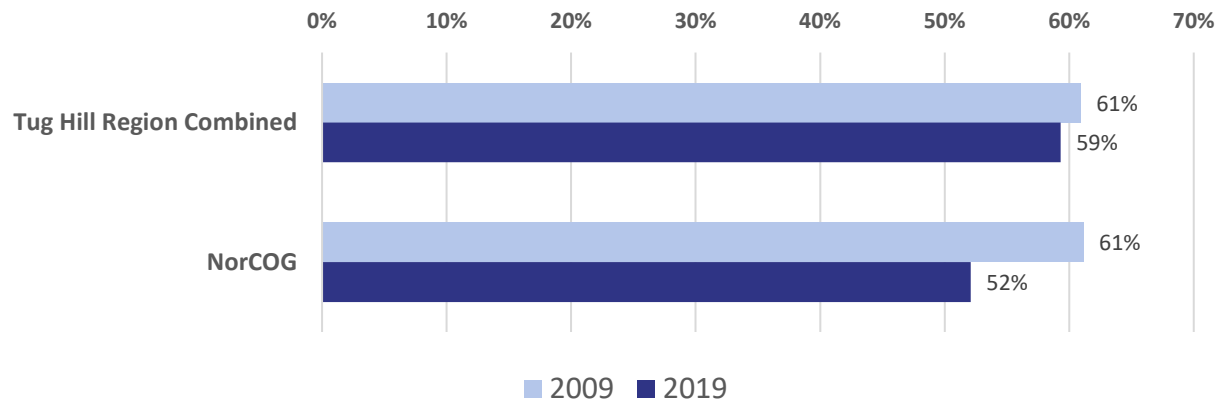
Executive Director

# Quality-of-Life Issues – Tug Hill Region Responses vs NorCOG Specific Responses



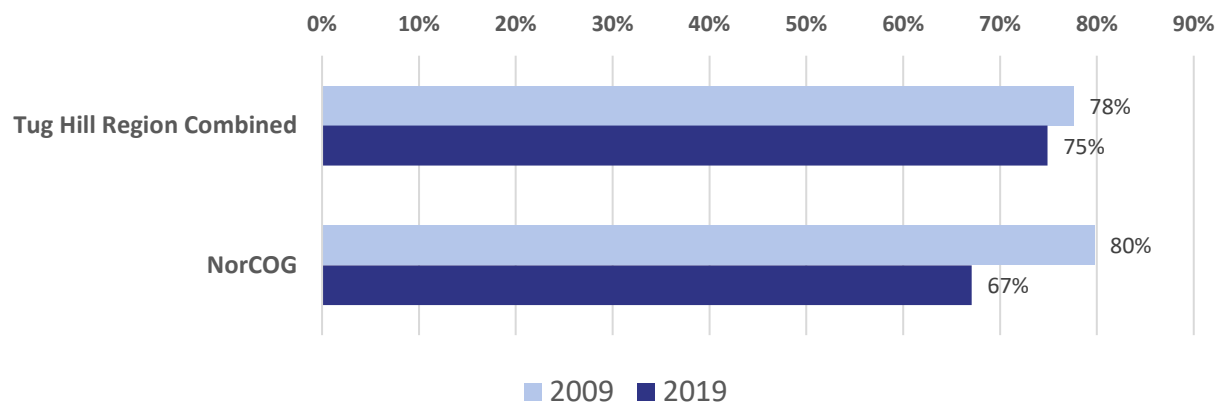
## Social Activities and Organizations

(% "Excellent or Good")



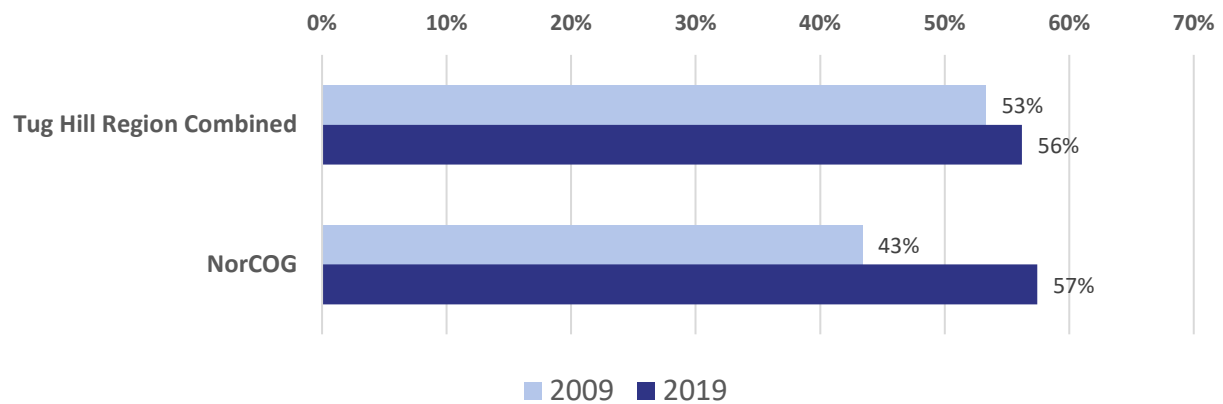
## Recreational Opportunities

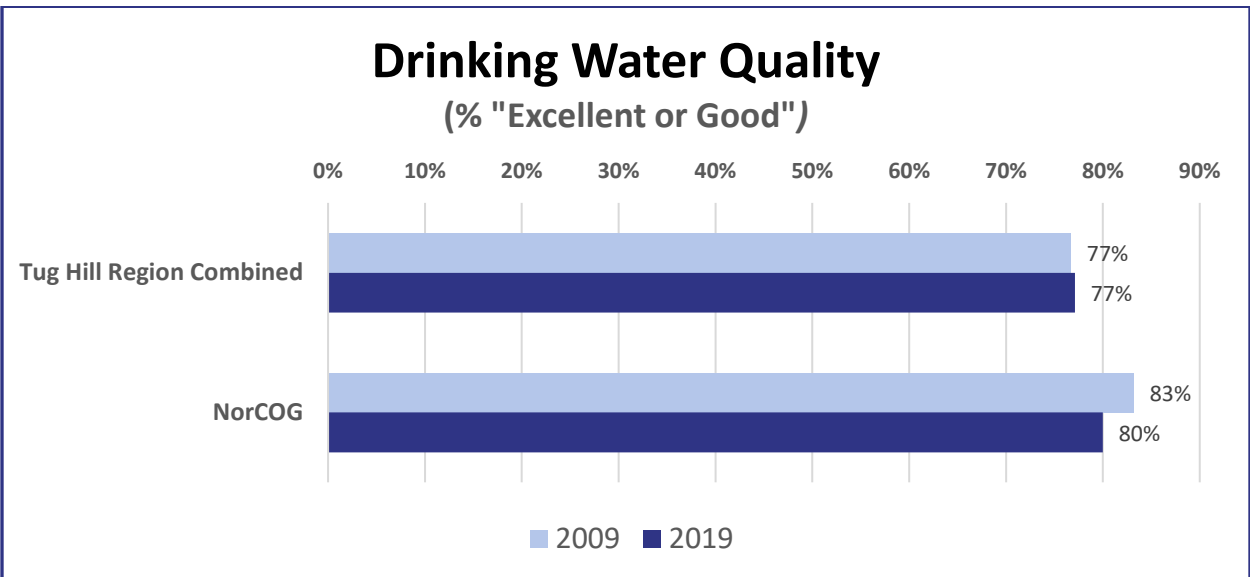
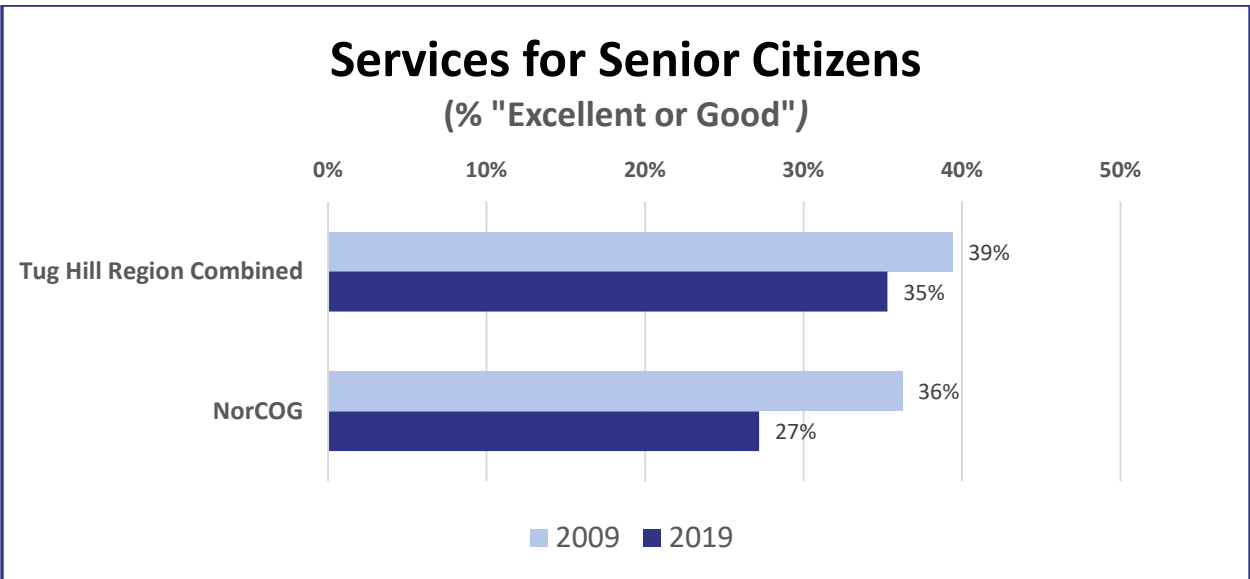
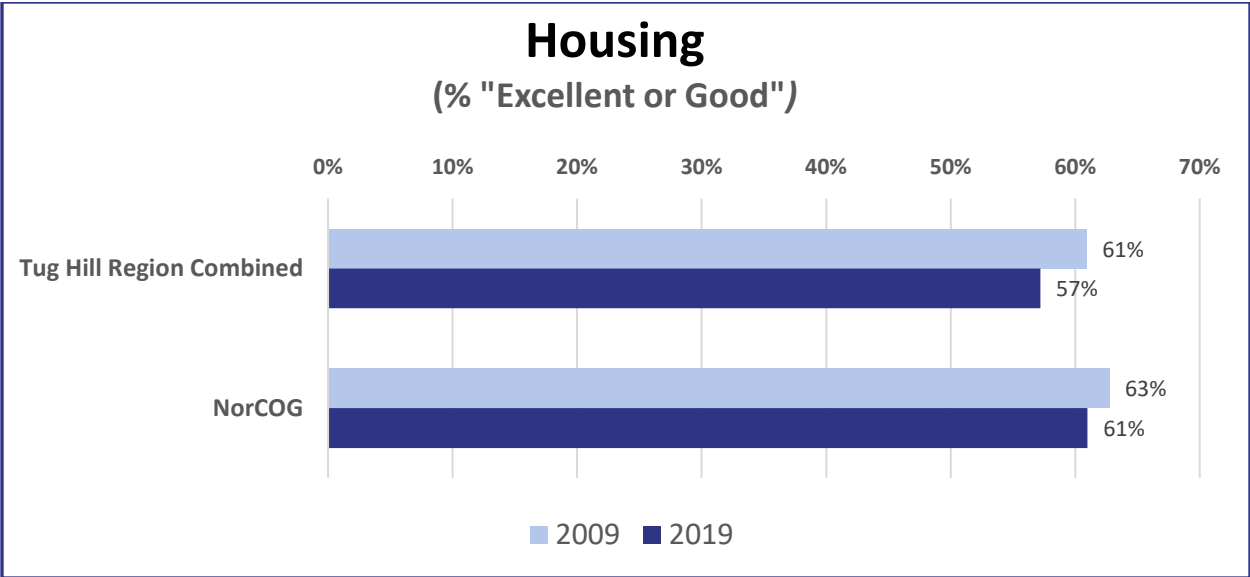
(% "Excellent or Good")



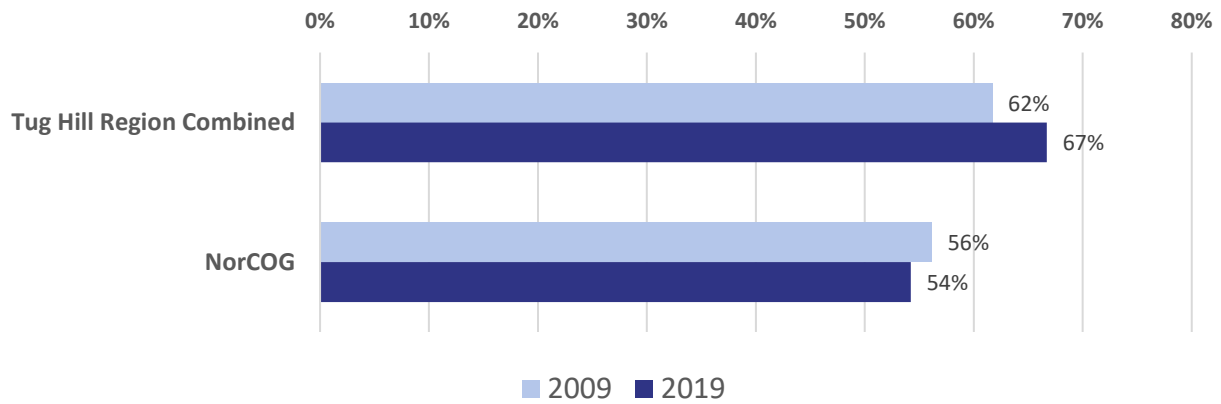
## Healthcare

(% "Excellent or Good")

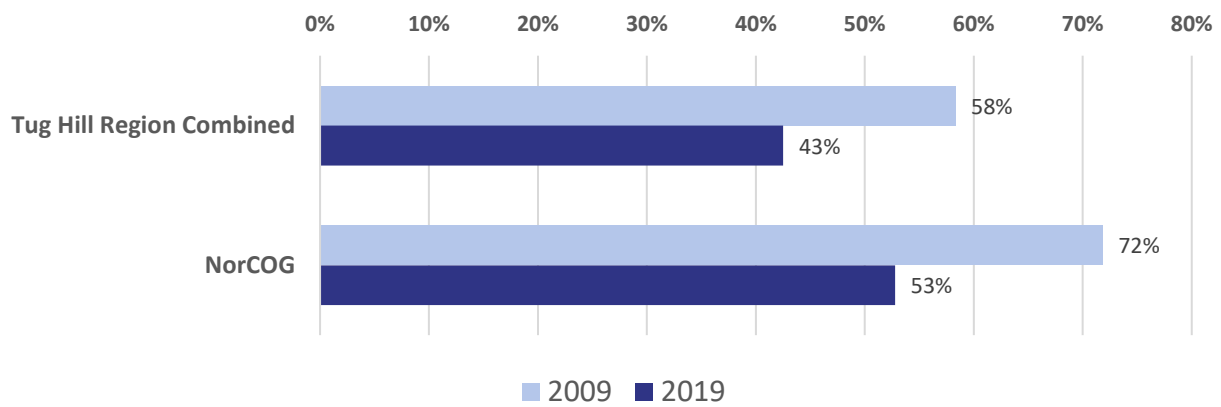




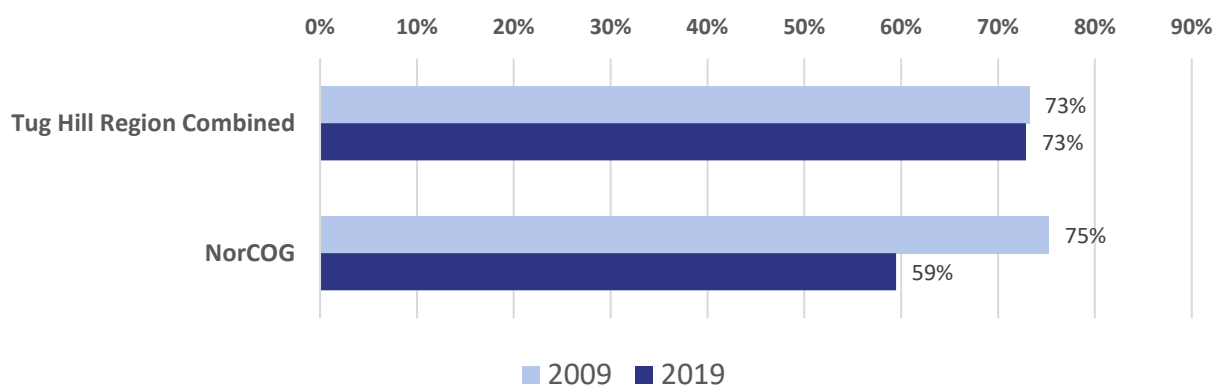
## Waste Water and Sewage Disposal (% "Excellent or Good")



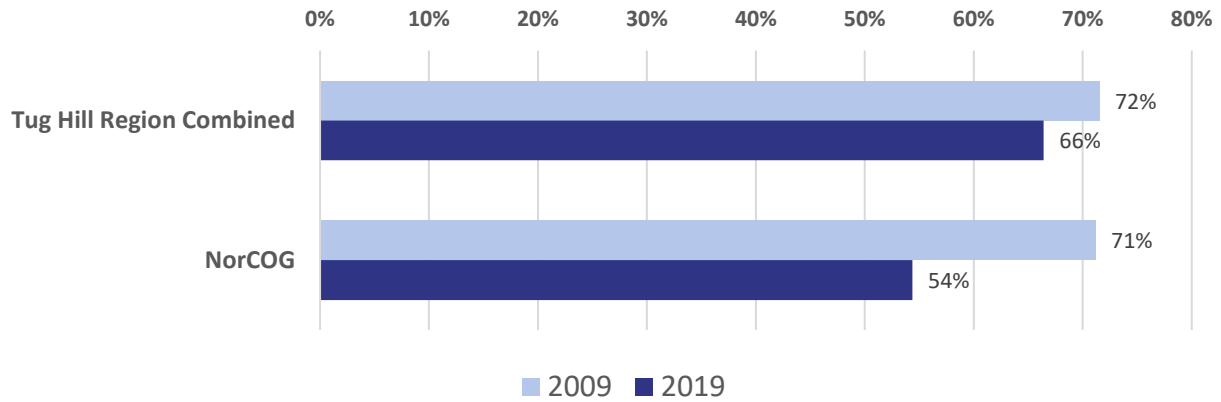
## Internet Access (% "Excellent or Good")



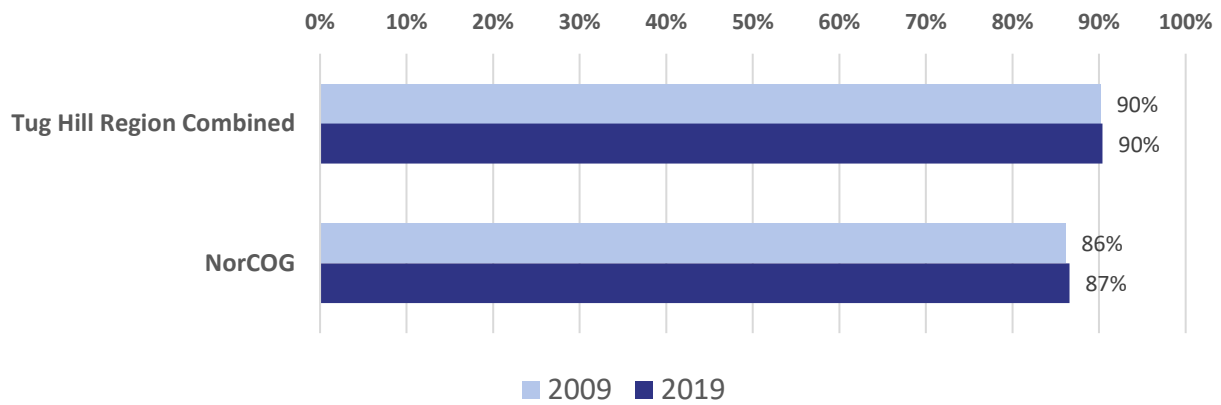
## Access to Groceries, Pharmacies, and Other Necessities (% "Excellent or Good")



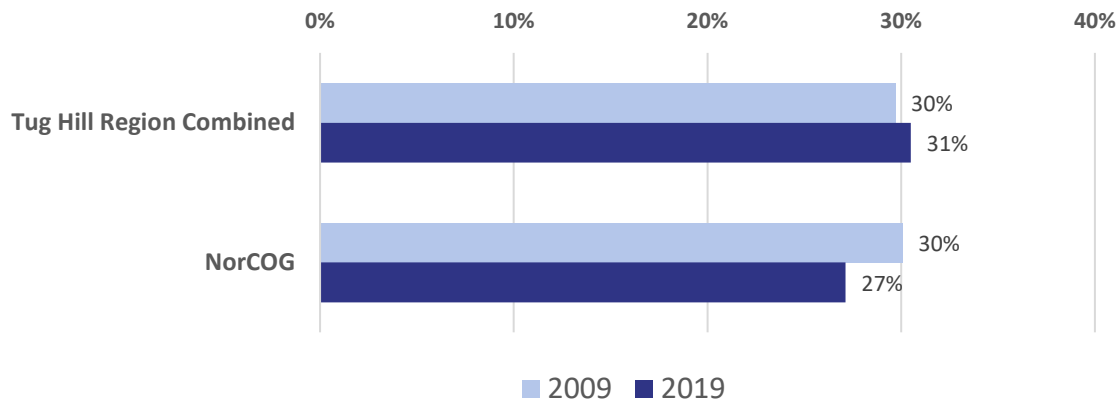
## Local Road Maintenance/Snow Removal (% "Excellent or Good")



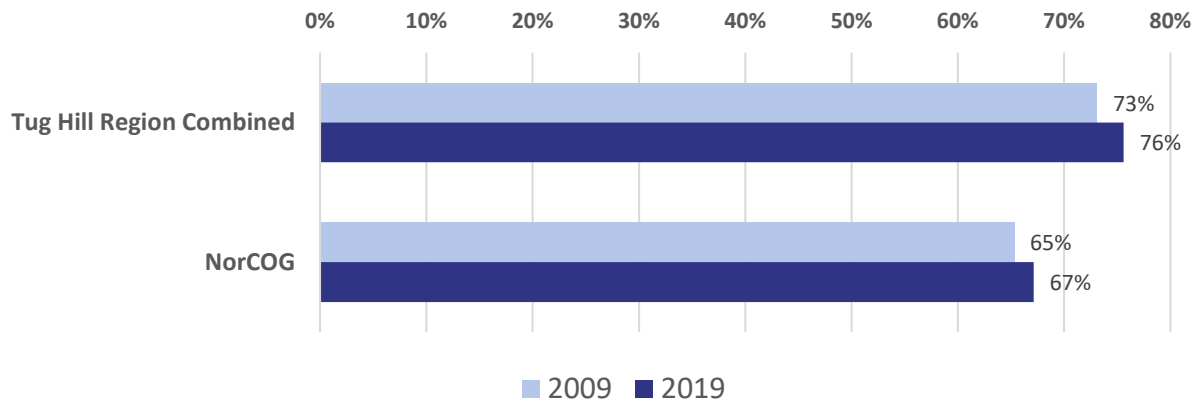
## Amount of Open Space (% "Excellent or Good")



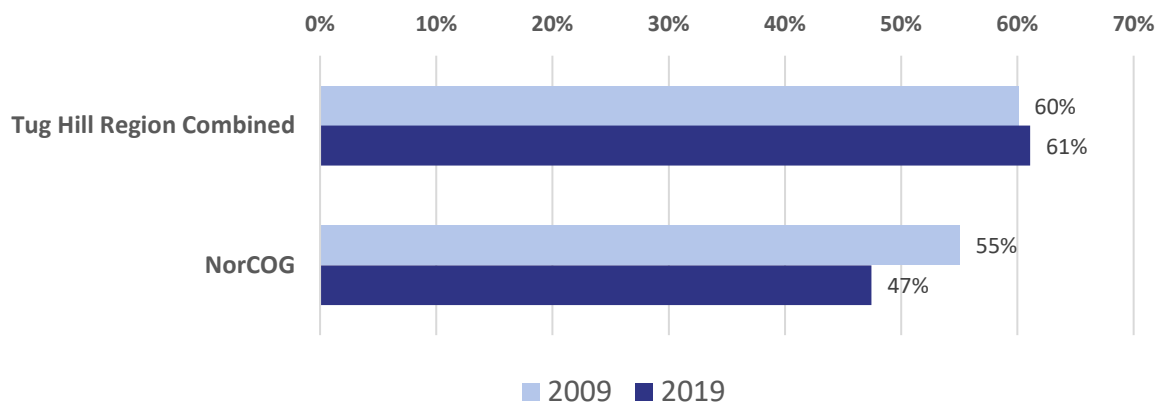
## Industrial and Commercial Development (% "Excellent or Good")



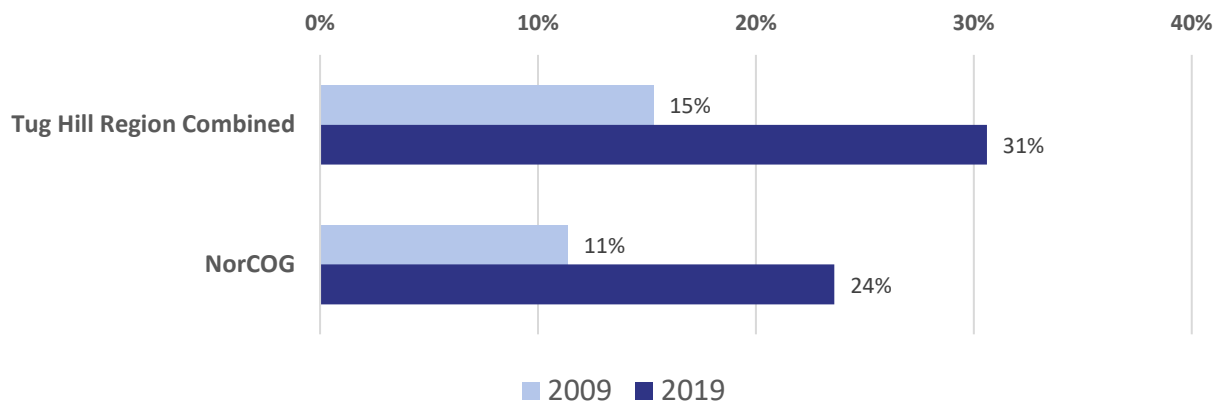
## Farming and Forestry Activity (% "Excellent or Good")



## Level of Tourism (% "Excellent or Good")

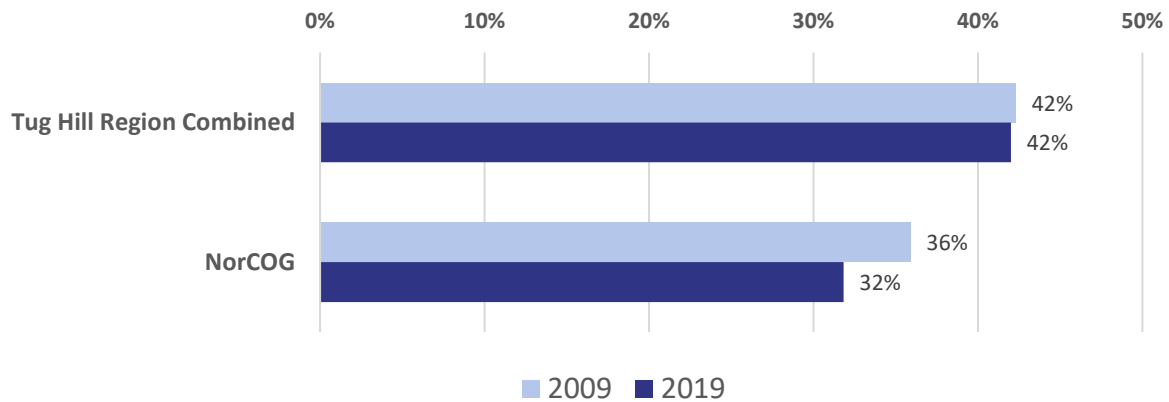


## Employment Opportunities (% "Excellent or Good")

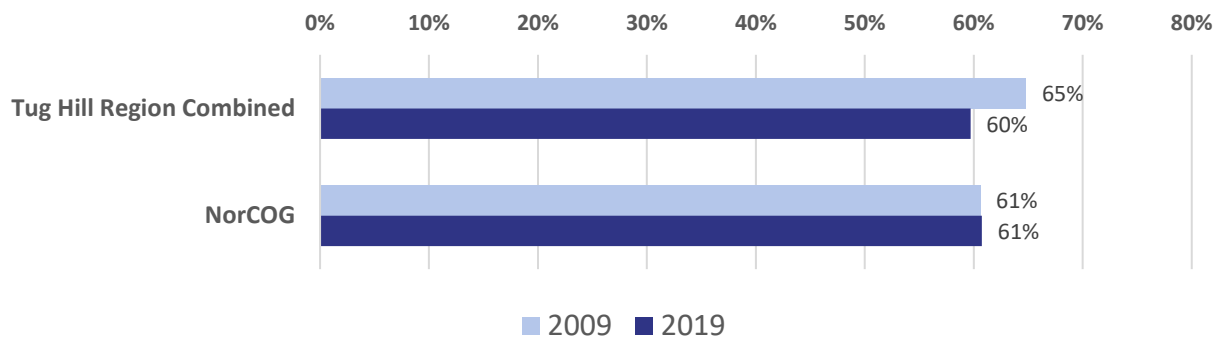




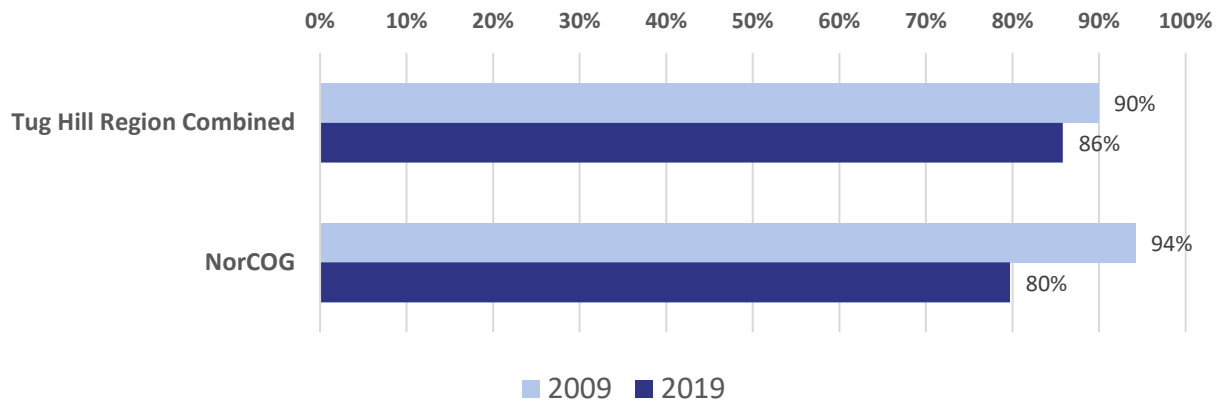
## Local Government Services (% "Excellent or Good")



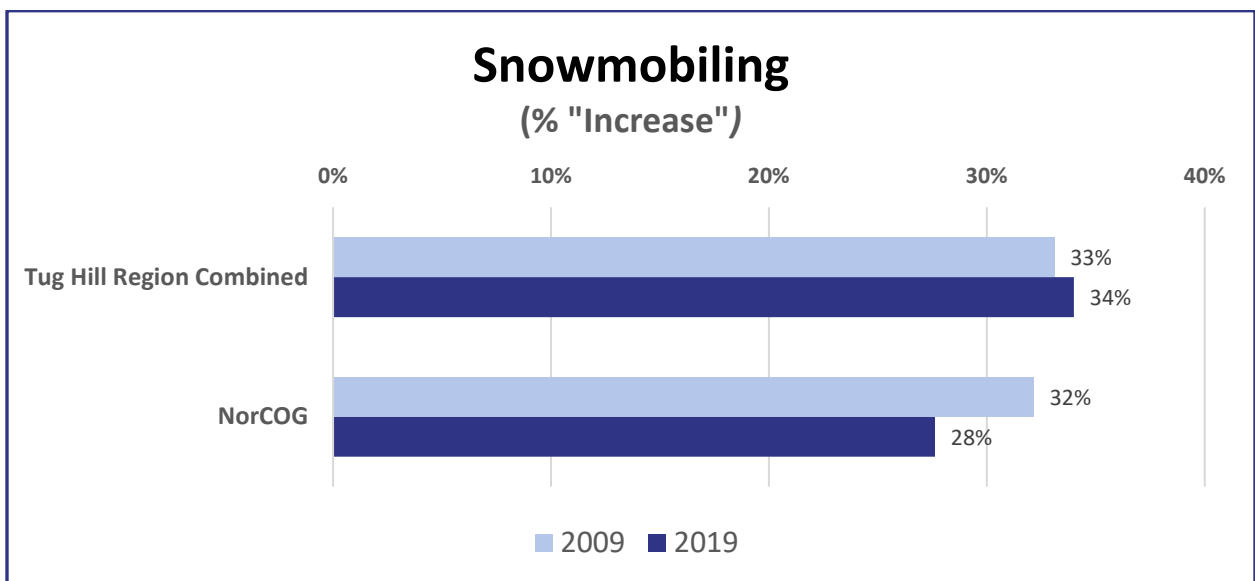
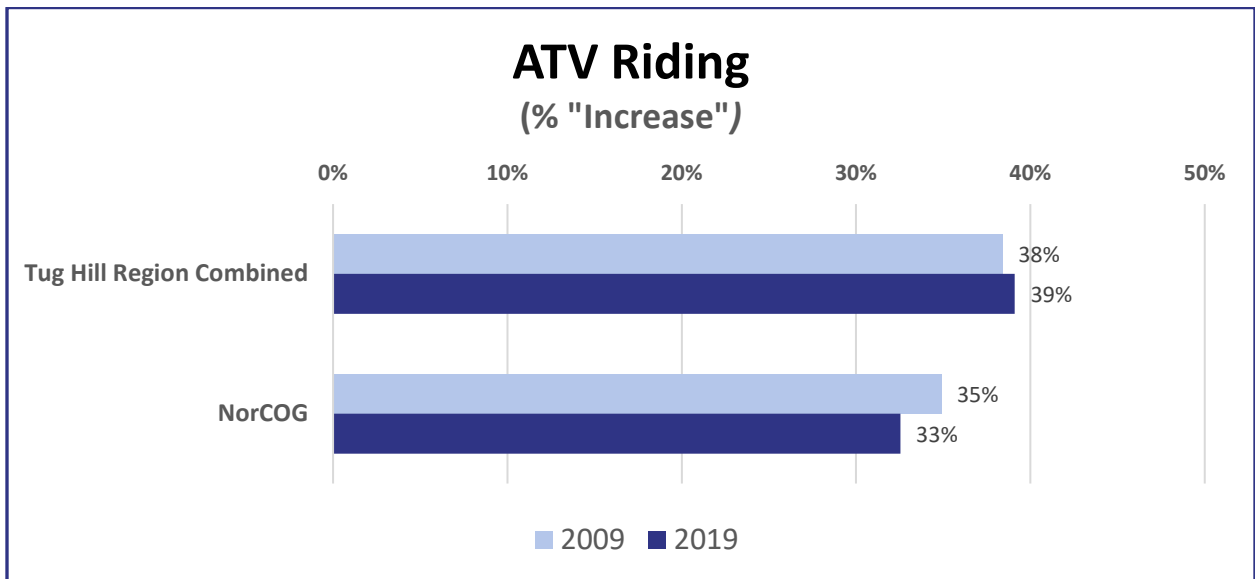
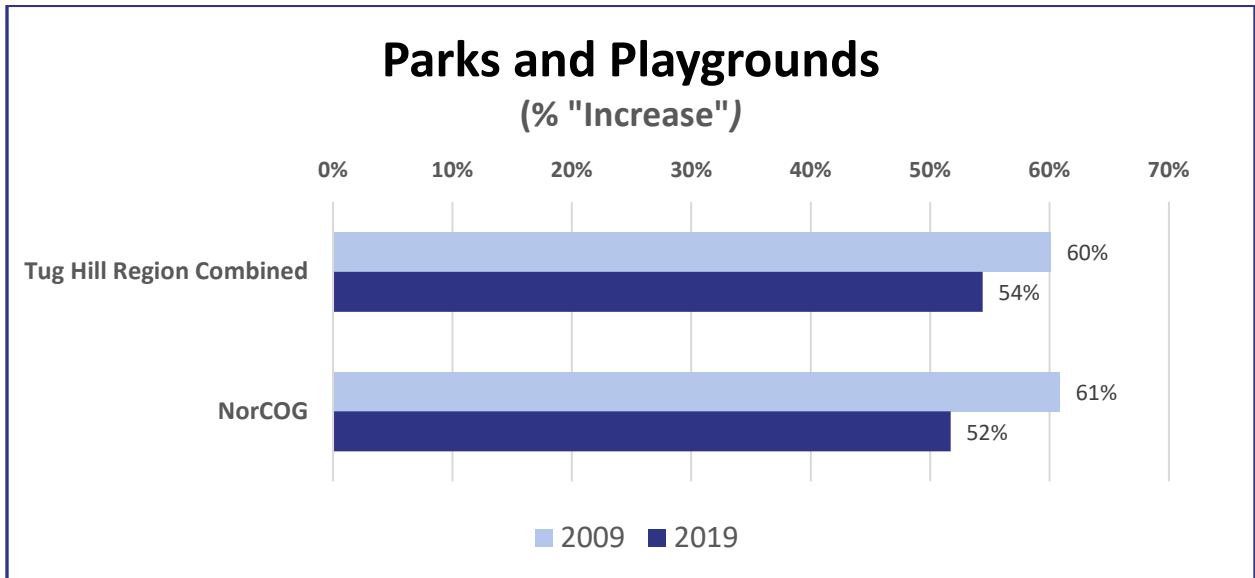
## Condition of Villages or Hamlets (Main Street) (% "Excellent or Good")



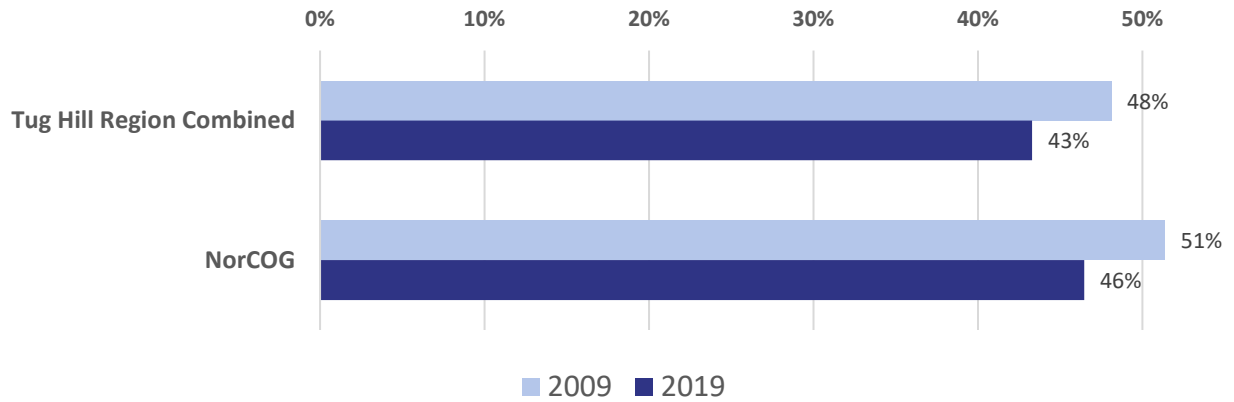
## Overall Quality of Life (% "Excellent or Good")



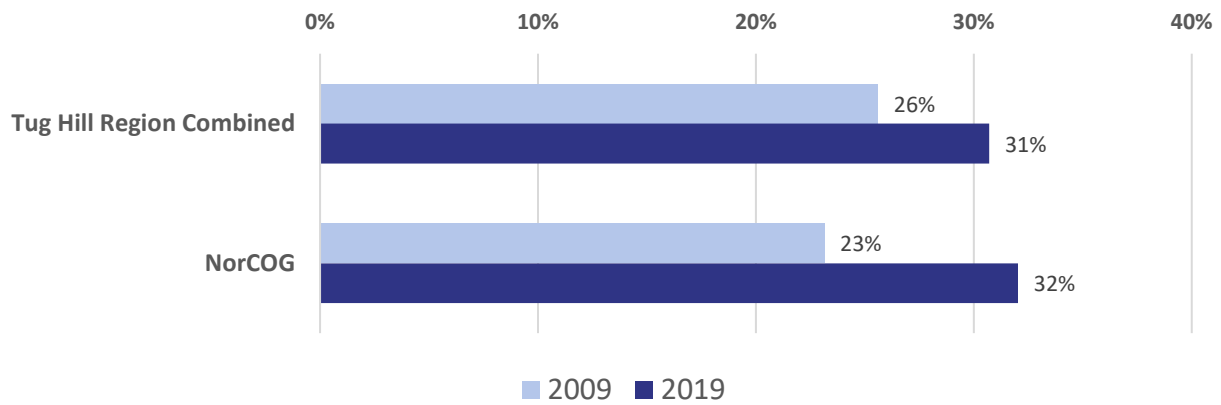
# Improving the Future – Tug Hill Region vs NorCOG Specific Responses – Recreation



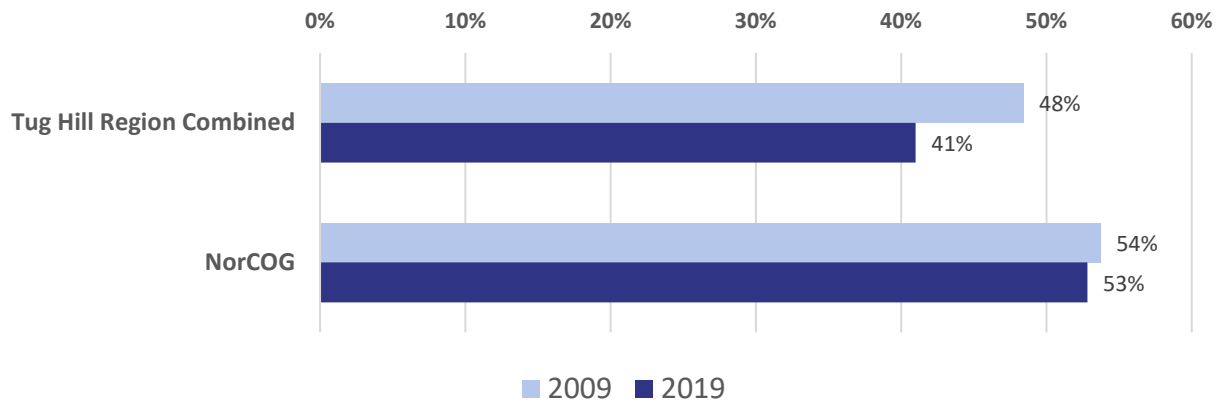
## Cross Country Skiing (% "Increase")



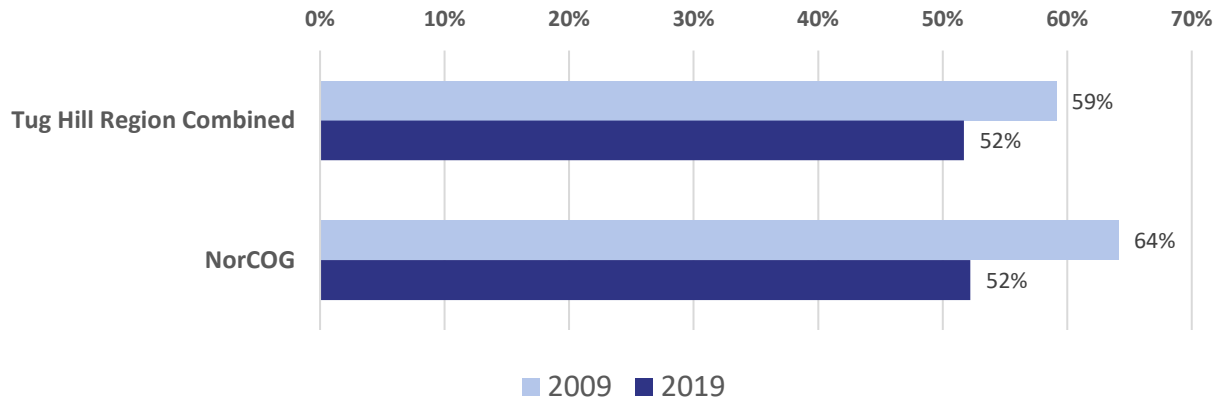
## Motorboating/Jet Skiing (% "Increase")



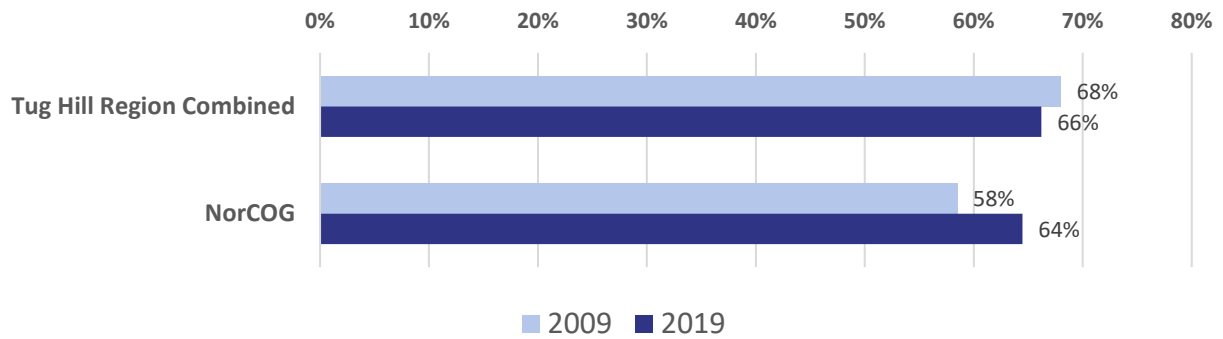
## Canoeing/Kayaking (% "Increase")



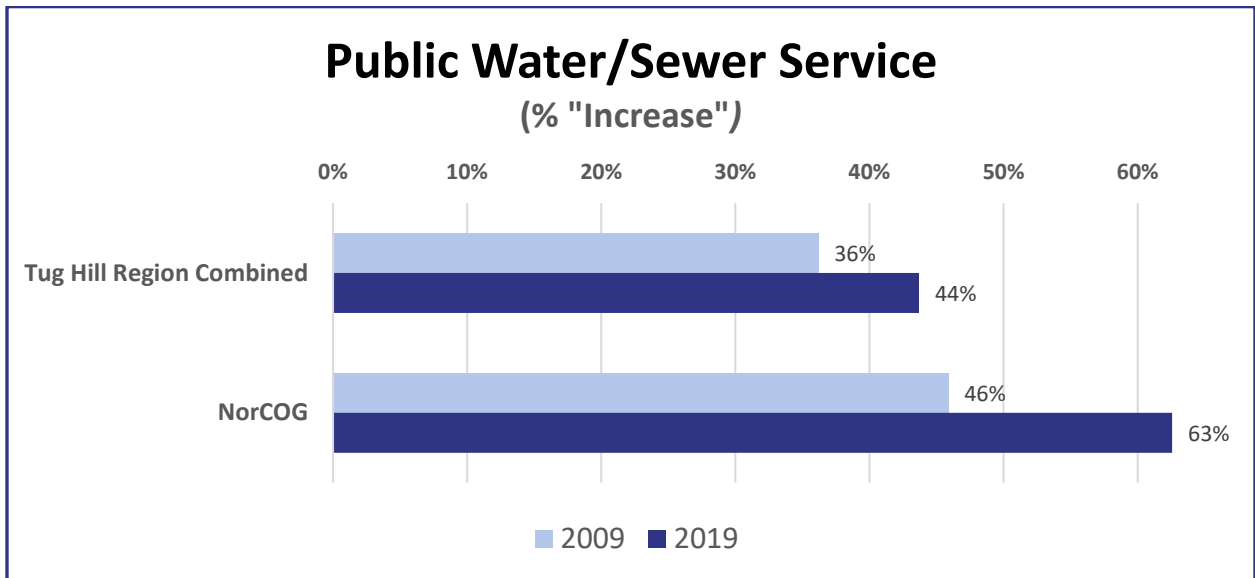
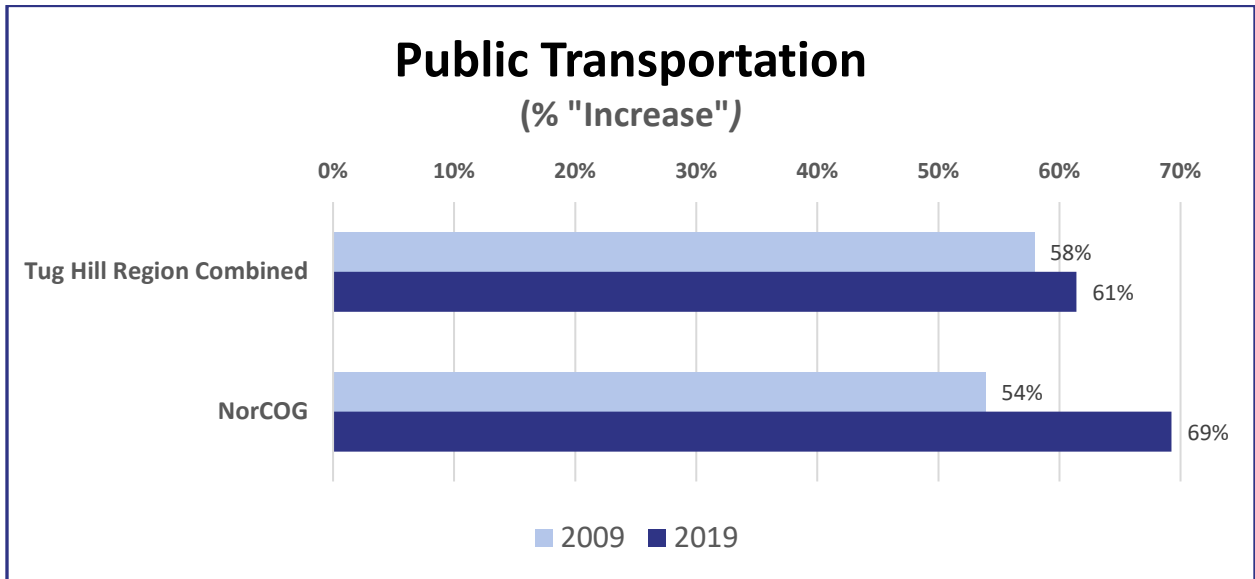
## Hiking/Walking/Camping (% "Increase")



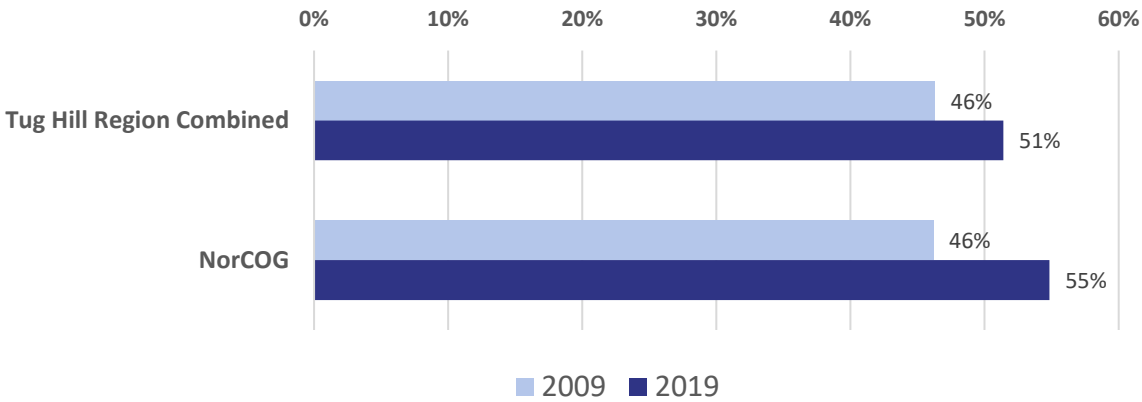
## Cultural Activities (concerts, performances, festivals) (% "Increase")



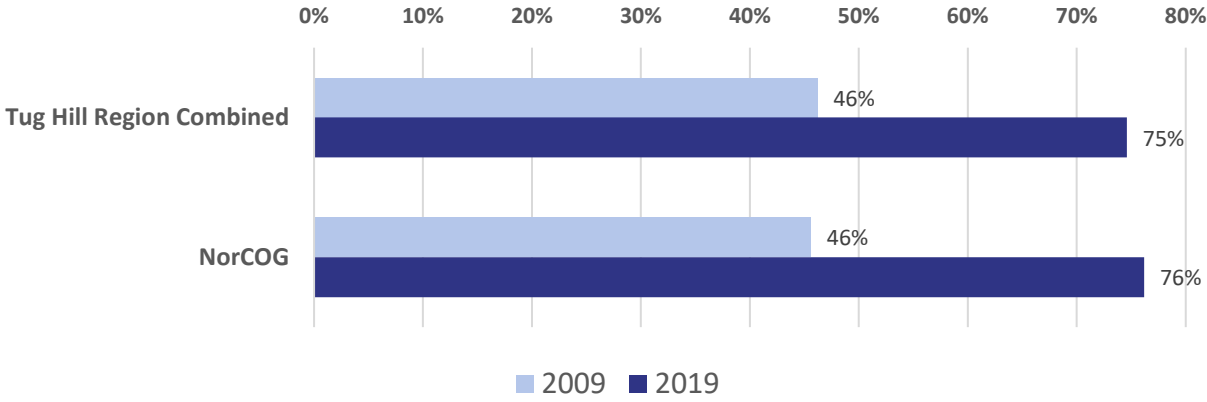
# Improving the Future – Tug Hill Region vs NorCOG Specific Responses – Infrastructure



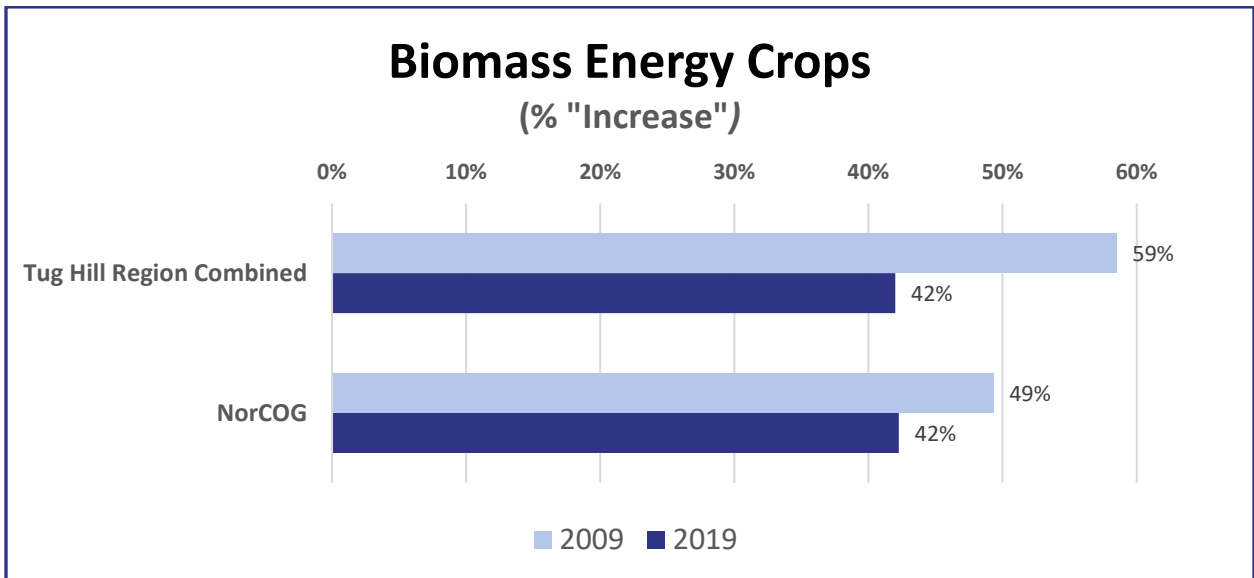
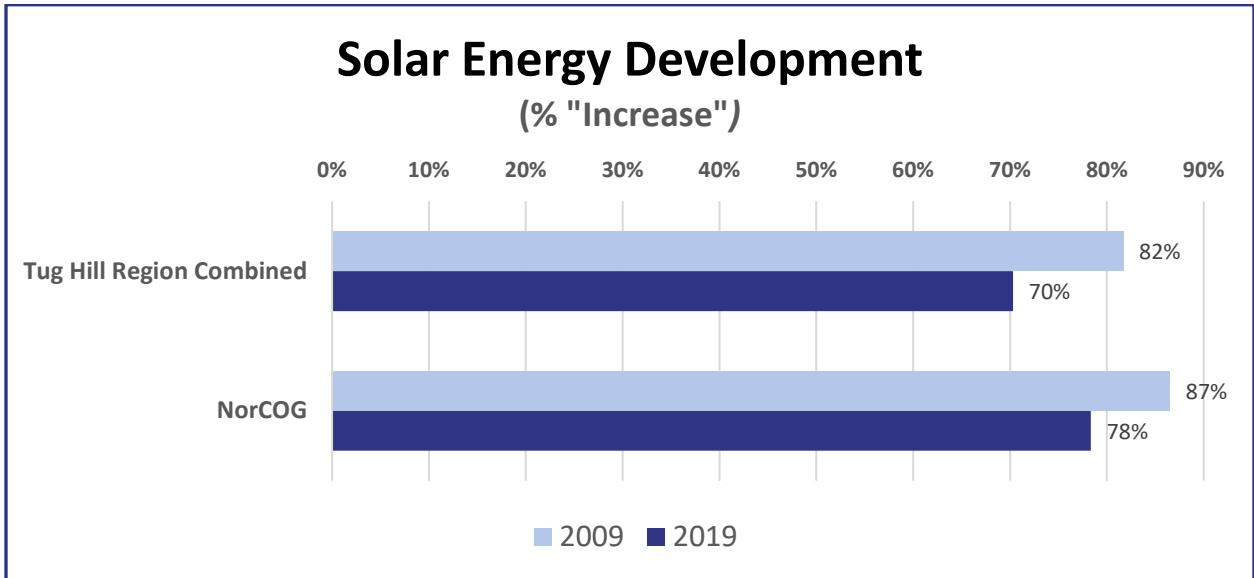
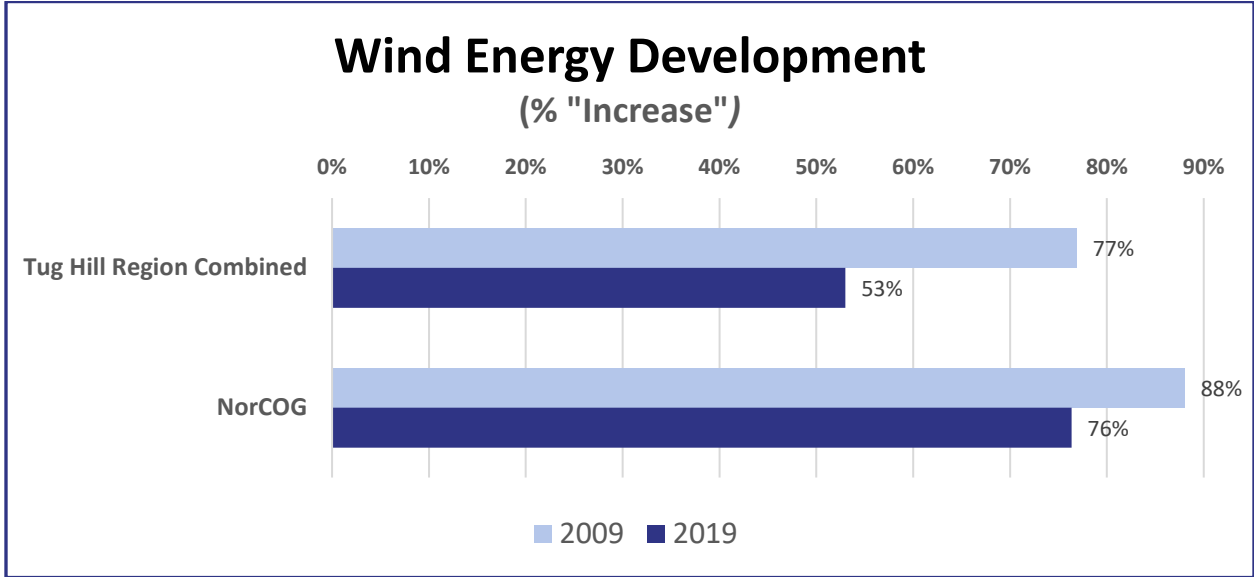
## Paved Roads (% "Increase")



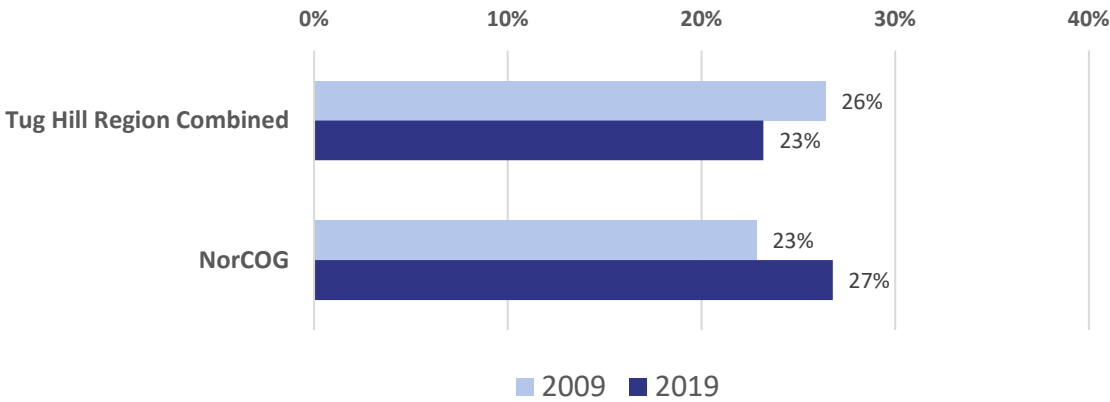
## Internet Access (% "Increase")



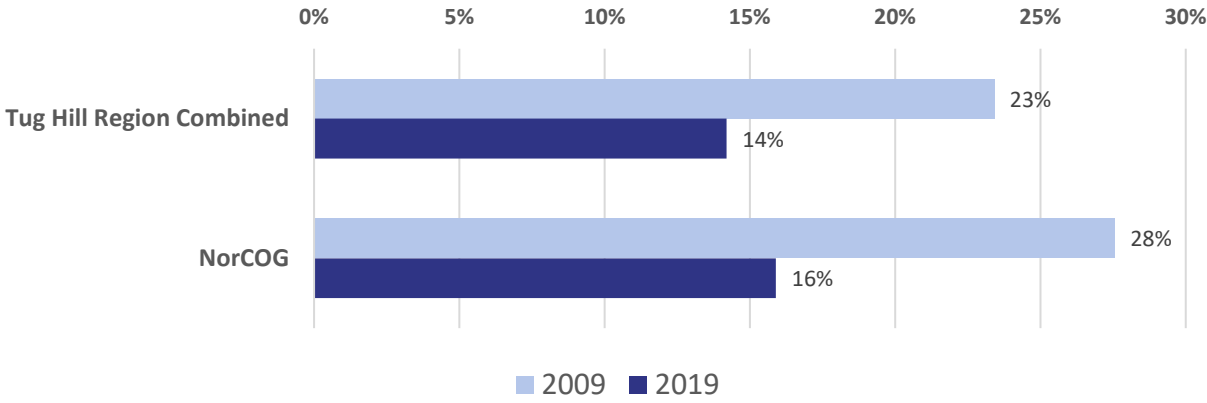
# Improving the Future – Tug Hill Region vs NorCOG Specific Responses – Energy



# Power Line Construction (% "Increase")

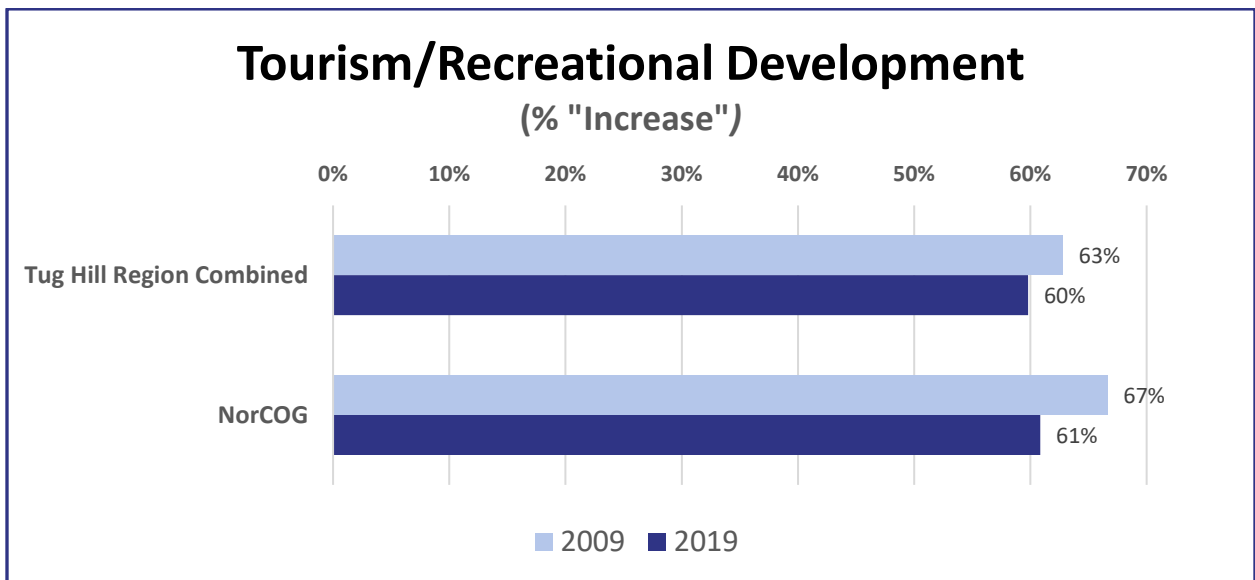
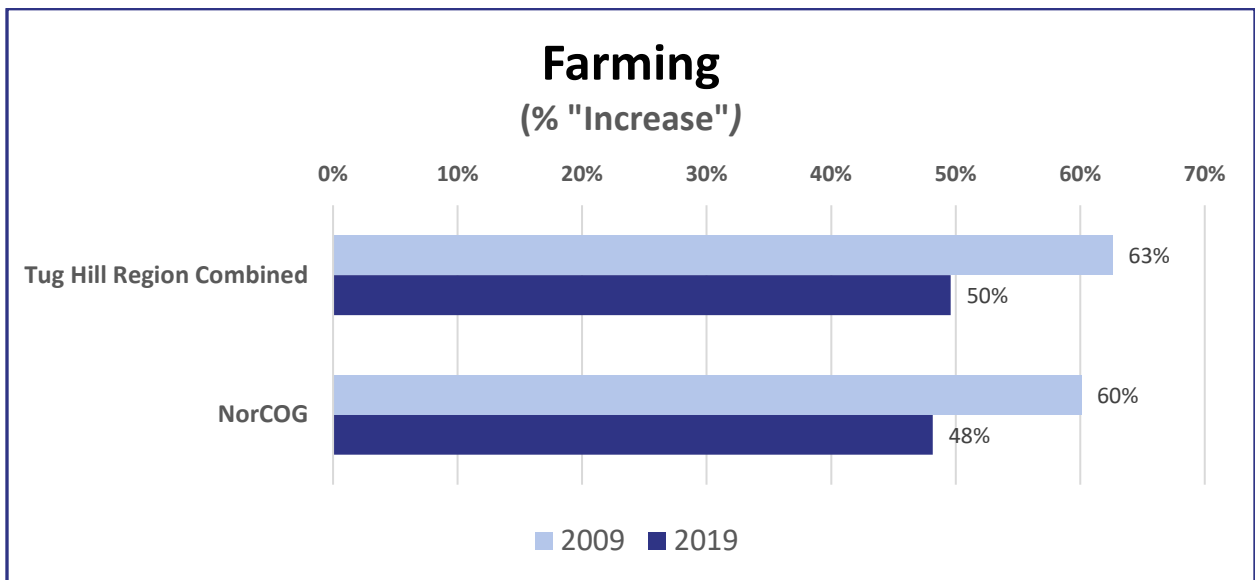
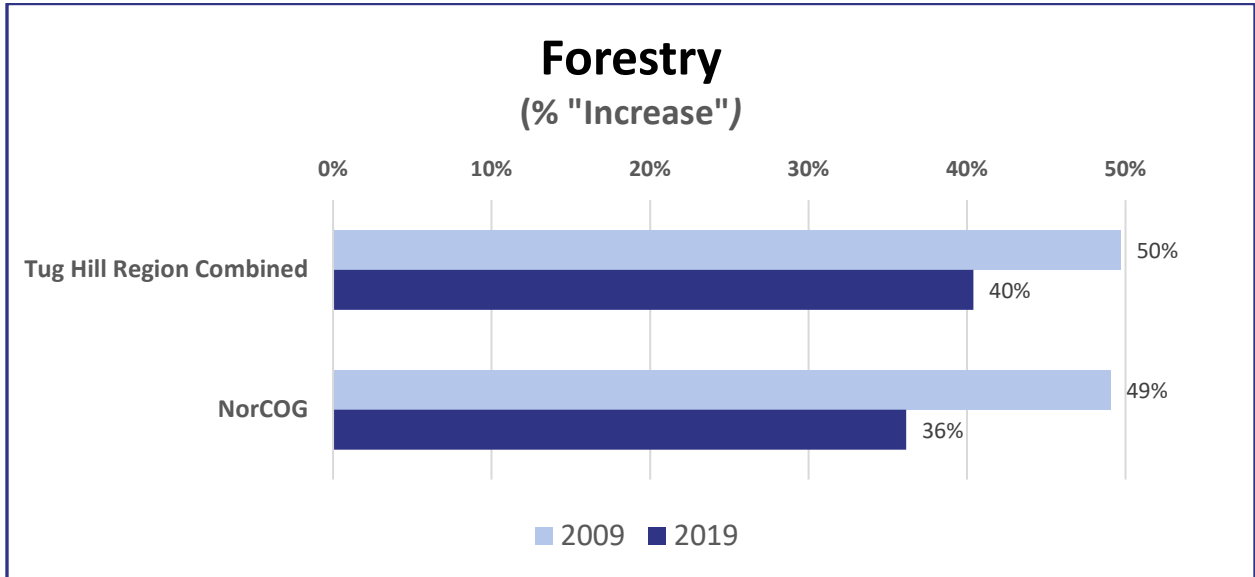


# Nuclear Power Development (% "Increase")

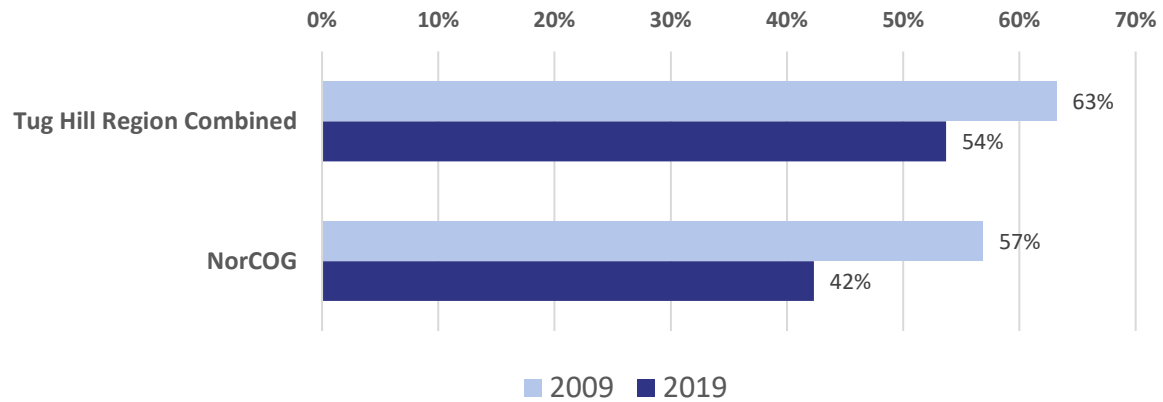




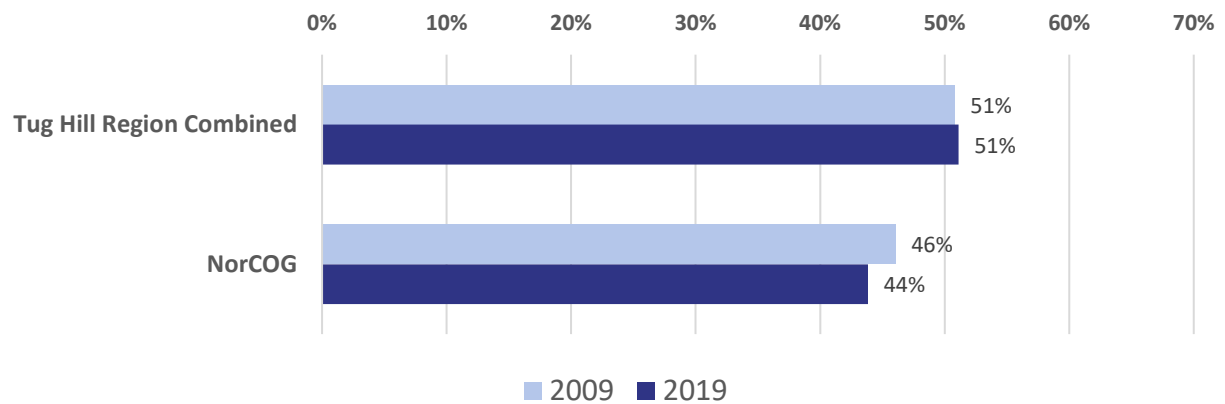
# Improving the Future – Tug Hill Region vs NorCOG Specific Responses – Economy



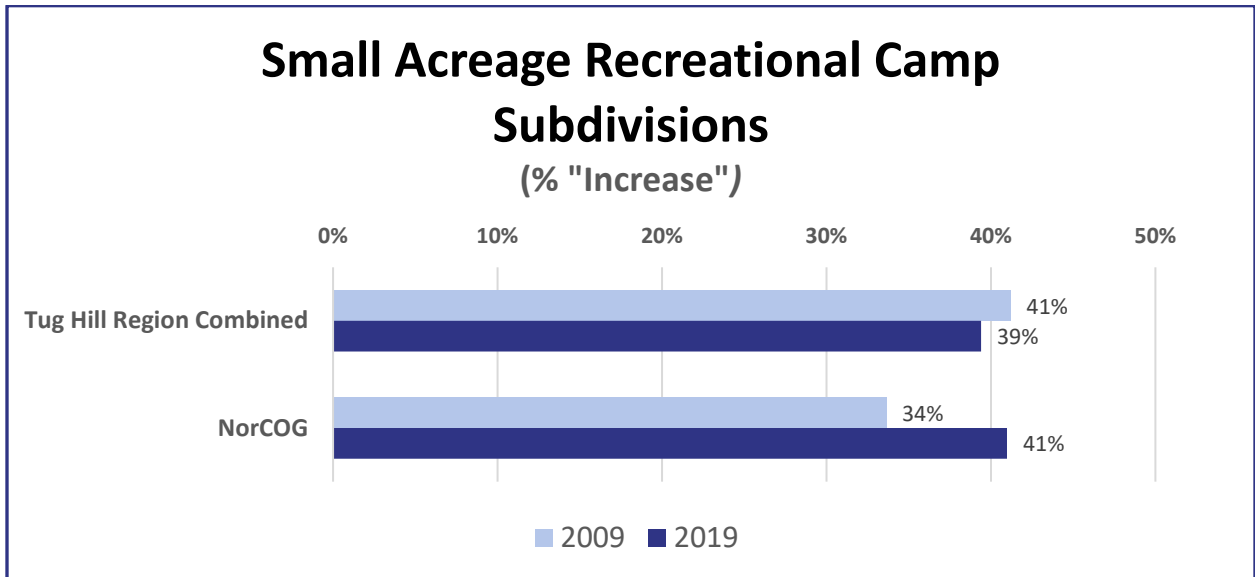
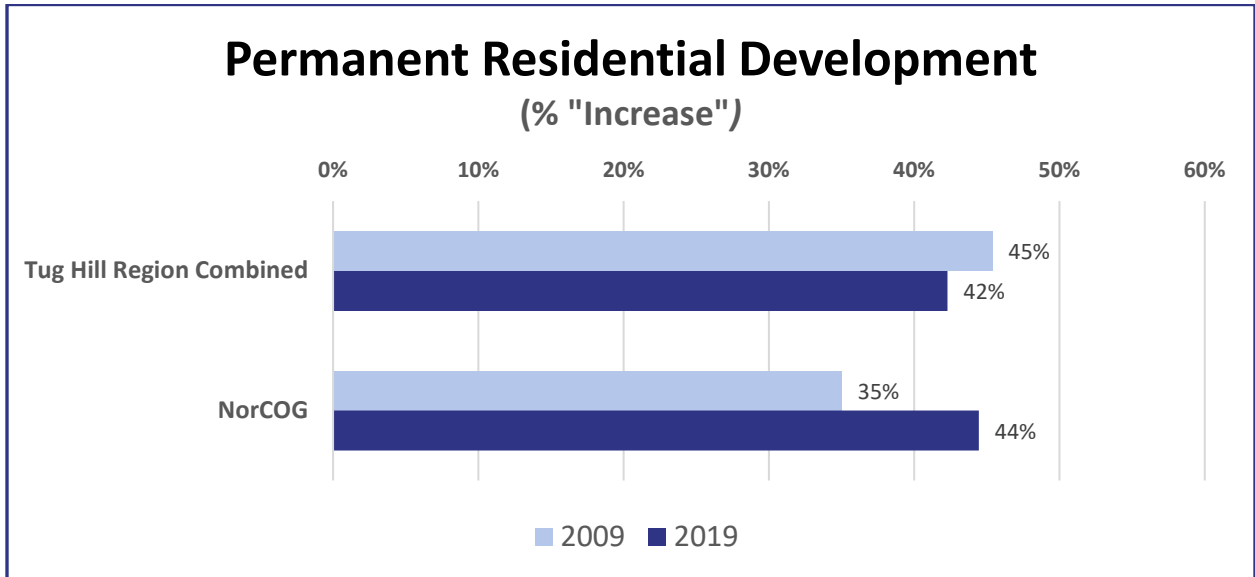
## Manufacturing/Industrial Development (% "Increase")



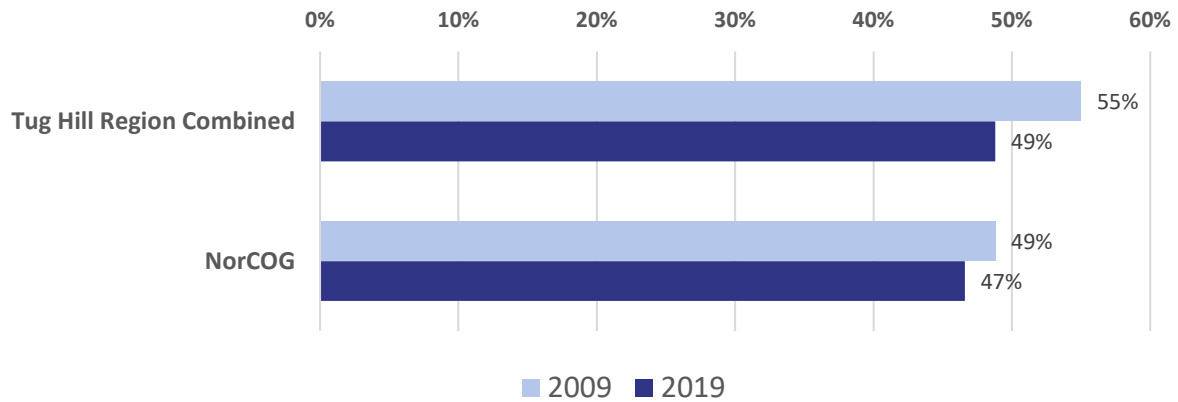
## Retail/Commercial Development (% "Increase")



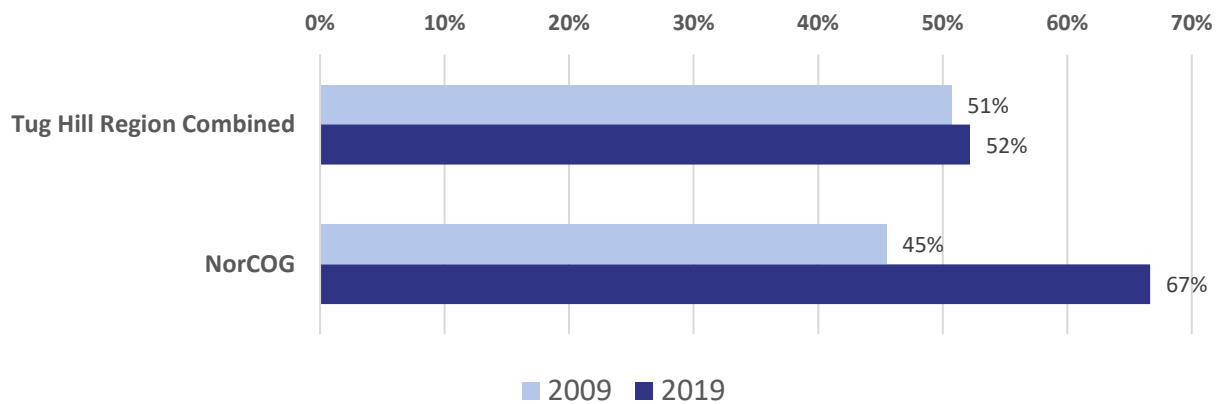
# Improving the Future – Tug Hill Region vs NorCOG Specific Responses – Land Use



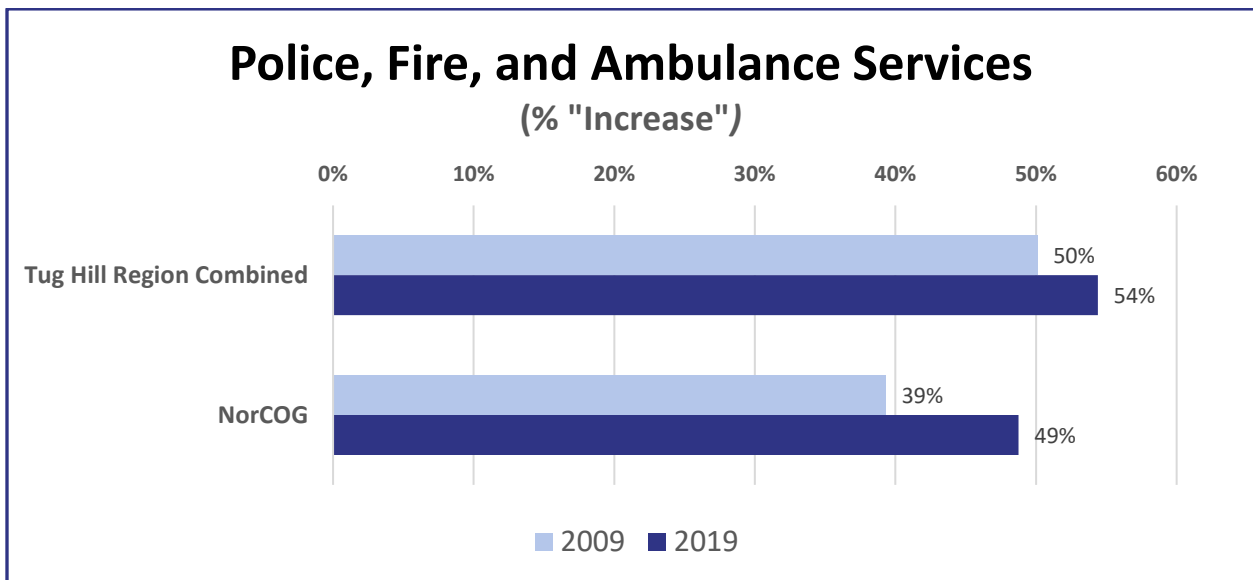
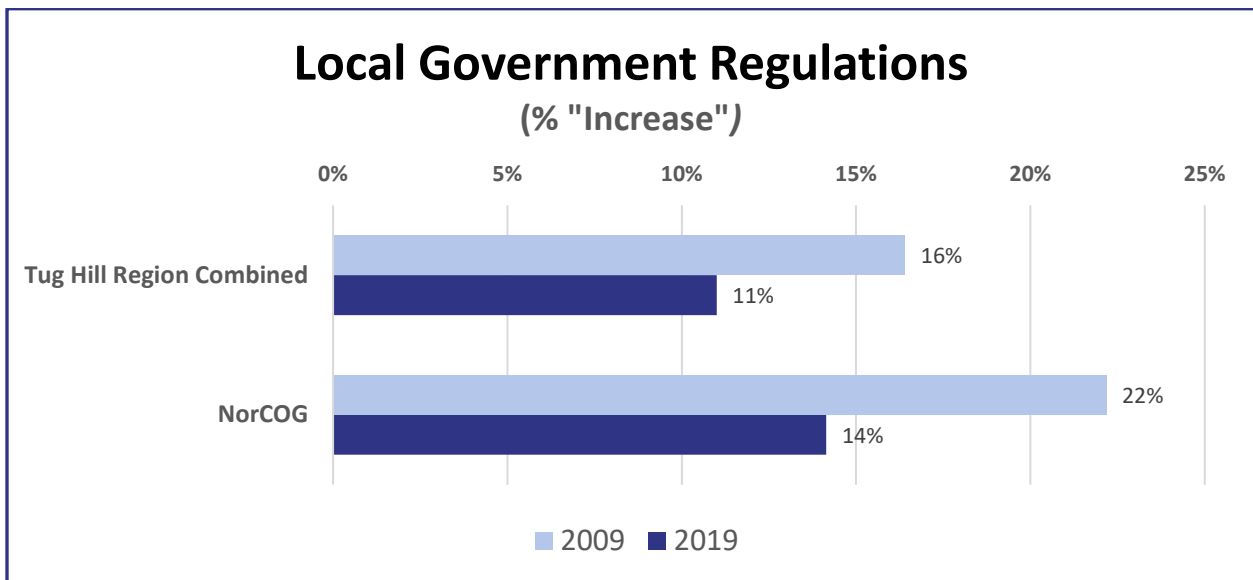
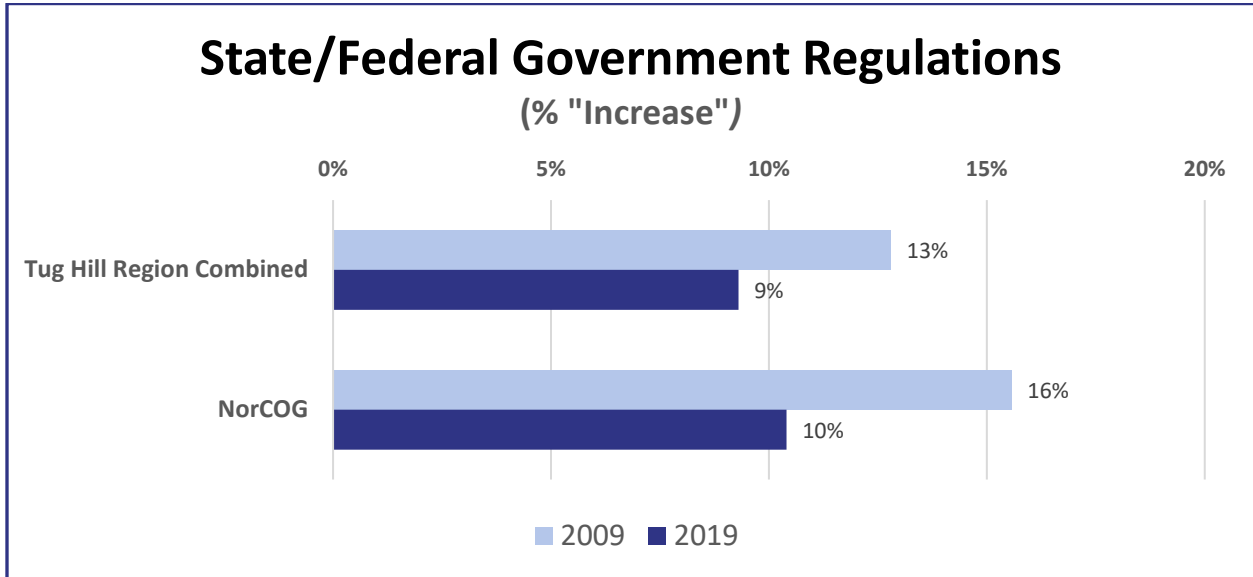
## Farm and Working Forest Landscapes (% "Increase")



## Protected Open Space (% "Increase")



# Improving the Future – Tug Hill Region vs NorCOG Specific Responses – Government



The Center for Community Studies  
*At Jefferson Community College*

## Presentation of Results



**2019**

Mr. Joel LaLone, Research Director

Mr. Lawrence Danforth, Research Coordinator

# Section 2

## Topline Summary of Study Findings

## 2.0

# Section 2.0 – The View from 30,000 Feet! (or, “if one only has 30 seconds to read this report”)

### 1. Quality of Life in the Tug Hill Region – Continued Satisfaction with the Outdoor/Environment/Rural setting

The primary theme that emerges from participants’ assessments of the *21 community quality-of-life indicators* in the Tug Hill Region in 2019 is the very positive ratings that many *outdoor/environment/rural setting characteristics* receive. For example, each of the following six community characteristics were rated as “Excellent or Good” by at least 75% of participants: “Amount of open space” (90% respond “Excellent or Good”), “Feeling of safety” (87%), “Overall quality of life” (86%), “Drinking water quality” (77%), “Farming and forestry activity” (76%), and “Recreational opportunities” (75%). Conversely, the three least positively rated characteristics in 2019, each with at least 25% rating as “Poor”, are the following more *business/technology/industry aspects* of the region: “Employment opportunities” (27% respond “Poor”), “Internet access” (27%), and “Industrial and commercial development” (26%).

### 2. Local Economy in the Tug Hill Region – Improving Employment Opportunities

Among the *21 community quality-of-life indicators* in the Tug Hill Region, a noteworthy and statistically significant trend has been identified over the past decade in “Employment opportunities” (only 15% responded “Excellent or Good” in 2009, while this rate has increased to 31% in 2019).

### 3. Internet Access in the Tug Hill Region – Increased Dissatisfaction

Among the *four studied infrastructure-related development survey items* in the Tug Hill Region dramatic and statistically significant trend has emerged over the past decade regarding desire for increased access to the Internet – from 46% responding “Increase” in 2009 to a 2019 rate of 75%.

### 4. Energy Development in the Tug Hill Region – Decreased Support

Among the *five studied energy-related development survey items* in the Tug Hill Region a noteworthy and statistically significant trends, specifically decreases in support for expansion, have been identified over the past decade in the following four potential developments: “Solar energy” with a dramatic change from 82% responding “Increase” in 2009 to a 2019 rate of 70%, “Wind energy” with a change from 77% responding “Increase” in 2009 to a 2019 rate of 53%, “Biomass energy crops” with a change from 59% responding “Increase” in 2009 to a 2019 rate of 42%, and “Nuclear power” with a large change from 23% responding “Increase” in 2009 to a 2019 rate of 14%.

### 5. Recreational Development in the Tug Hill Region – Motorized versus Non-motorized

The primary theme that emerges from participants’ preferences regarding potential expansion of *nine studied recreation-related development survey items* in the Tug Hill Region in 2019 is the strong level of support for expansion that many *outdoor non-motorized activities* receive. For example, each of the following three *recreation-related development items* resulted with majority of participants in 2019 supporting an “Increase”: “Cultural activities (concerts, performances, festivals, etc.)” (66%), “Parks and playgrounds” (54%), and “Hiking/walking/camping” (52%). Further, the top five items in terms of level of support are all non-motorized outdoor recreation – the three cited above, along with “Cross country skiing” and “Canoeing/Kayaking”. Conversely, the two recreation activities receiving the least amount of support for increasing levels, each with less than 35% responding with “Increase”, are the following more *motorized outdoor recreation activities*: “Snowmobiling” (only 34% respond “Increase”), and “Motorboating/jet skiing” (only 31% respond “Increase”). Similarly, support for “Decreasing” a recreational activity is expressed most commonly for “ATV riding” (10% respond “Decrease”).



## 6. Economic Development in the Tug Hill Region – Tourism and Recreation Development

Participants' preferences regarding potential expansion of *five studied economy-related development survey items* in the Tug Hill Region in 2019 are typically in support of "Increasing" the development. The largest degree of support was voiced for expansion of "Tourism/recreational" (60% of participants in 2019 support an "Increase", and another 37% respond "Keep the same", while only 2% respond "Decrease").

## 7. Government in the Tug Hill Region – Desire for Less Regulation

A clear separation emerges among participants' preferences regarding potential expansion of *three studied government-related development survey items* in the Tug Hill Region in 2019. There is strong support for expansion of "Police, fire, and ambulance services", with "Increase" as a most common response (54%), and another 42% responding "Keep the same". In contrast, there is very little support in 2019 for an "Increase" in either "Local government regulations, includes zoning and land use laws" (11% response "Increase, while 40% respond "Decrease"), or "State/federal government regulations" (9% response "Increase, while 53% respond "Decrease"). Further, the level of support for decreasing government regulation has increased tremendously since 2009 in each of the following two potential developments: "Local government regulations, includes zoning and land use laws" with a dramatic change from 25% responding "Decrease" in 2009 to a 2019 rate of 40%, and "State/federal government regulations" with a large change from 35% responding "Decrease" in 2009 to a 2019 rate of 53%.

## 2.1

# Quality-of-Life Issues in the Tug Hill Region – *Satisfaction* (Tables 11-31)

### 2.1.1 Highlighted Findings Regarding *Relative Standings* Among the 21 Quality of Life Indicators

The primary theme that emerges from participants' assessments of the 21 *community quality-of-life indicators* in the Tug Hill Region in 2019 is the very positive ratings that many *outdoor/environment/rural setting characteristics* receive. For example, each of the following six community characteristics were rated as "Excellent or Good" by at least 75% of participants: "Amount of open space" (90% respond "Excellent or Good"), "Feeling of safety" (87%), "Overall quality of life" (86%), "Drinking water quality" (77%), "Farming and forestry activity" (76%), and "Recreational opportunities" (75%). Conversely, the three least positively rated characteristics in 2019, each with at least 25% rating as "Poor", are the following more *business/technology/industry aspects* of the region: "Employment opportunities" (27% respond "Poor"), "Internet access" (27%), and "Industrial and commercial development" (26%).

### 2.1.2 Highlighted *Trends* Among the 21 Quality of Life Indicators Between 2009-2019

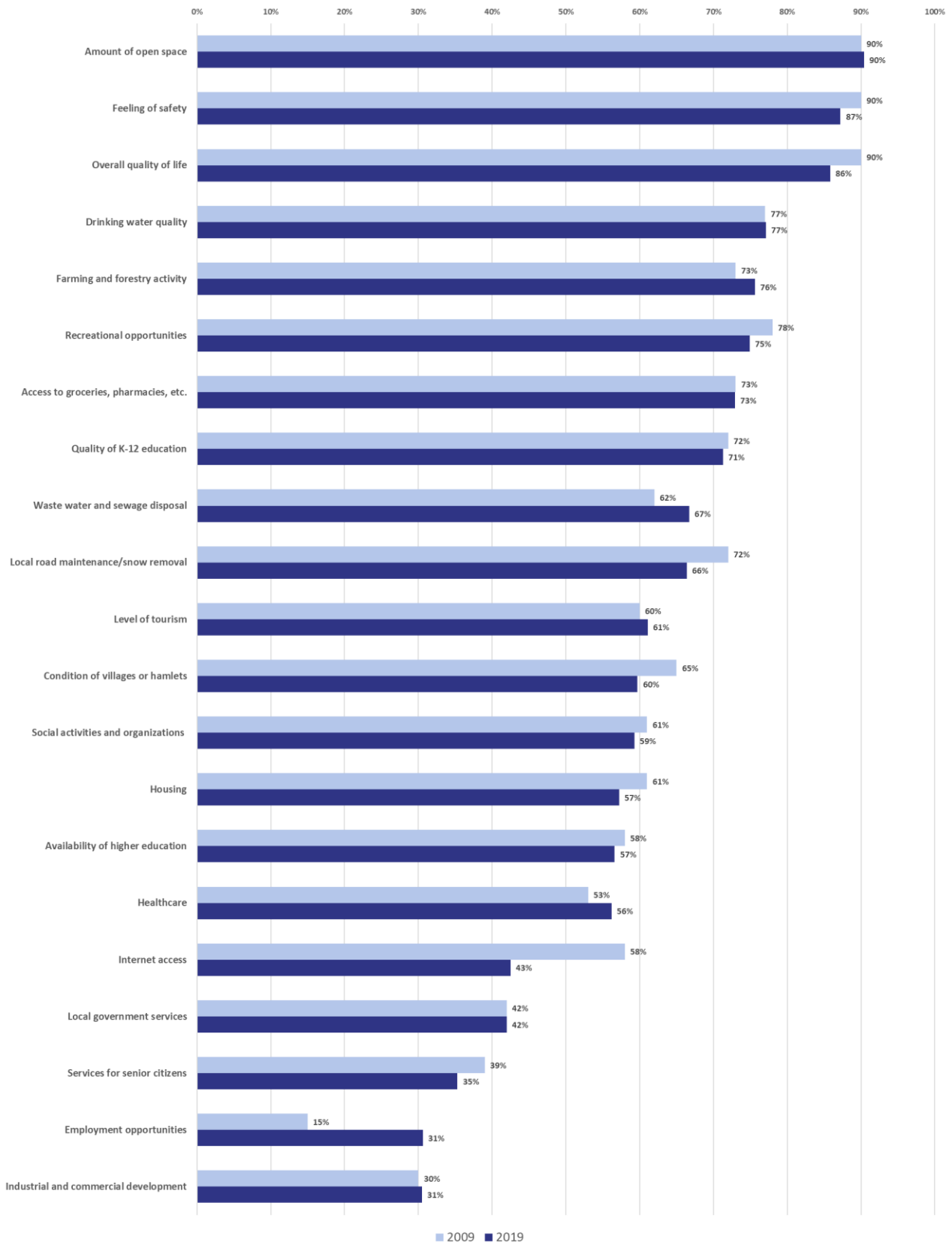
Among the 21 *community quality-of-life indicators* in the Tug Hill Region noteworthy and statistically significant trends or changes have been identified over the past decade in the following five community characteristics: "Internet access" (58% responded "Excellent or Good" in 2009, while only 43% do so in 2019), "Employment opportunities" (only 15% responded "Excellent or Good" in 2009, while this rate has increased to 31% in 2019), "Local road maintenance/snow removal" (72% responded "Excellent or Good" in 2009, while only 66% do so in 2019), "Condition of villages or hamlets – Main Street" (65% responded "Excellent or Good" in 2009, while only 60% do so in 2019), and "Level of tourism" (only 14% responded "Excellent" in 2009, while this rate has increased to 20% in 2019).

**Table 4** Summary – Quality-of-Life Issues in the Tug Hill Region (2019 results)

<i>Quality-of-Life Issue</i>	Excellent	Good	Fair	Poor	Not sure
Amount of open space	51.4%	39.0%	7.4%	1.6%	0.7%
Feeling of safety	36.7%	50.5%	10.1%	2.1%	0.5%
Overall quality of life	28.6%	57.2%	12.5%	1.8%	0.0%
Drinking water quality	29.9%	47.2%	13.2%	6.5%	3.1%
Farming and forestry activity	29.0%	46.6%	14.5%	5.6%	4.3%
Recreational opportunities	35.3%	39.6%	17.7%	5.8%	1.5%
Access to groceries, pharmacies, other necessities	23.2%	49.7%	20.3%	6.6%	0.1%
Quality of K-12 education	19.5%	51.8%	14.7%	3.4%	10.6%
Waste water and sewage disposal	14.9%	51.8%	17.4%	5.5%	10.4%
Local road maintenance/snow removal	20.3%	46.1%	20.4%	12.5%	0.7%
Level of tourism	20.4%	40.7%	22.8%	11.9%	4.2%
Condition of villages or hamlets (Main Street)	10.0%	49.7%	31.6%	7.3%	1.3%
Social activities and organizations	15.9%	43.4%	27.7%	9.9%	3.0%
Housing	9.2%	48.0%	25.6%	8.1%	9.0%
Availability of higher education	16.7%	39.9%	23.1%	11.5%	8.7%
Healthcare	12.2%	44.0%	26.7%	10.5%	6.6%
Internet access	11.5%	31.0%	26.5%	27.0%	4.0%
Local government services	6.9%	35.1%	37.2%	10.4%	10.3%
Services for senior citizens	6.7%	28.6%	24.7%	15.1%	24.9%
Employment opportunities	6.8%	23.8%	35.7%	27.3%	6.5%
Industrial and commercial development	7.6%	22.9%	36.5%	25.8%	7.2%

### Summary – Quality-of-Life Issues in the Tug Hill Region

(% "Excellent or Good")



## 2.2

# Improving the Future of the Tug Hill Region – *Recreation* (Tables 32-40)

### 2.2.1 Highlighted Findings Regarding *Relative Standings* Among the 9 Recreation Items

The primary theme that emerges from participants' preferences regarding potential expansion of *nine studied recreation-related development survey items* in the Tug Hill Region in 2019 is the strong level of support for expansion that many *outdoor non-motorized activities* receive. For example, each of the following three *recreation-related development items* resulted with majority of participants in 2019 supporting an "Increase": "Cultural activities (concerts, performances, festivals, etc.)" (66%), "Parks and playgrounds" (54%), and "Hiking/walking/camping" (52%). Further, the top five items in terms of level of support are all non-motorized outdoor recreation – the three cited above, along with "Cross country skiing" and "Canoeing/Kayaking". Conversely, the two recreation activities receiving the least amount of support for increasing levels, each with less than 35% responding with "Increase", are the following more *motorized outdoor recreation activities*: "Snowmobiling" (only 34% respond "Increase"), and "Motorboating/jet skiing" (only 31% respond "Increase"). Similarly, support for "Decreasing" a recreational activity is expressed most commonly for "ATV riding" (10% respond "Decrease").

### 2.2.2 Highlighted *Trends* Among the 9 Recreation Items Between 2009-2019

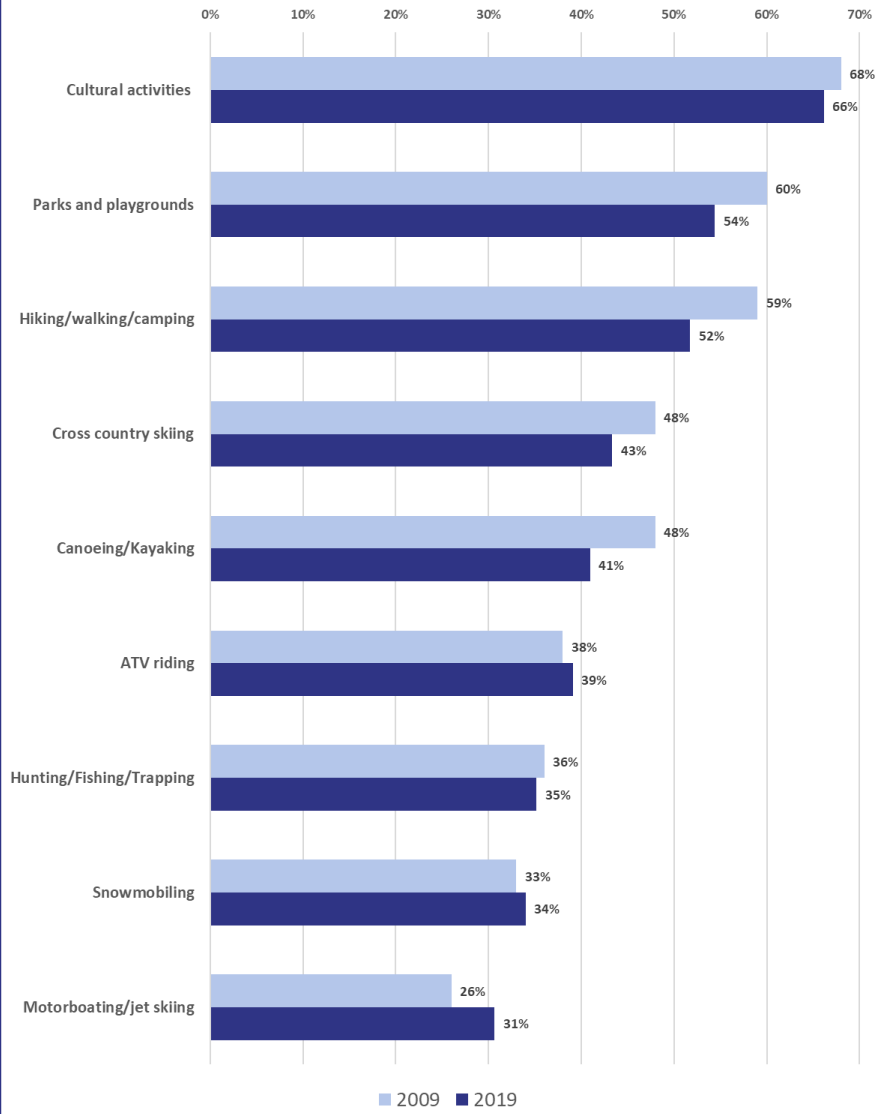
Among the *nine studied recreation-related development survey items* in the Tug Hill Region noteworthy and statistically significant trends or changes have been identified over the past decade in the following six potential developments: "Parks and playgrounds" with a shift from "Increase" (60% down to 54%) to "Keep the same" (36% up to 43%), "Hiking/walking/camping" with a shift from "Increase" (59% down to 52%) to "Keep the same" (37% up to 46%), "Cross country skiing" with a shift from "Increase" (48% down to 43%) to "Keep the same" (43% up to 49%), "Canoeing/Kayaking" with a shift from "Increase" (48% down to 41%) to "Keep the same" (46% up to 54%), "ATV riding" with a shift from "Decrease" (15% down to 10%) to "Keep the same" (42% up to 48%), and "Motorboating/jet skiing" with a shift from "Decrease" (10% down to 3%) to "Increase" (26% up to 31%) – with "Motorboating/jet skiing" the only recreation related item that has shown a significant increase in support for growth between 2009 and 2019.

**Table 5** Summary – *Recreation* in the Tug Hill Region (2019 results)

<i>Recreational Activity</i>	Increase	Keep, but do not increase	Decrease	Not sure
Cultural activities (concerts, performances, festivals, etc.)	66.2%	29.8%	1.6%	2.4%
Parks and playgrounds	54.4%	42.6%	0.5%	2.6%
Hiking/walking/camping	51.7%	46.0%	0.8%	1.4%
Cross country skiing	43.3%	49.3%	1.8%	5.5%
Canoeing/Kayaking	41.0%	54.1%	0.9%	4.1%
ATV riding	39.1%	47.7%	9.9%	3.3%
Hunting/Fishing/Trapping	35.2%	60.4%	2.5%	1.9%
Snowmobiling	34.0%	56.3%	7.8%	1.9%
Motorboating/jet skiing	30.7%	60.9%	3.3%	5.1%

### Summary – Recreation in the Tug Hill Region

(% "Increase")



## 2.3

# Improving the Future of the Tug Hill Region – *Infrastructure* (Tables 41-44)

### 2.3.1 Highlighted Findings Regarding *Relative Standings* Among the 4 Infrastructure Items

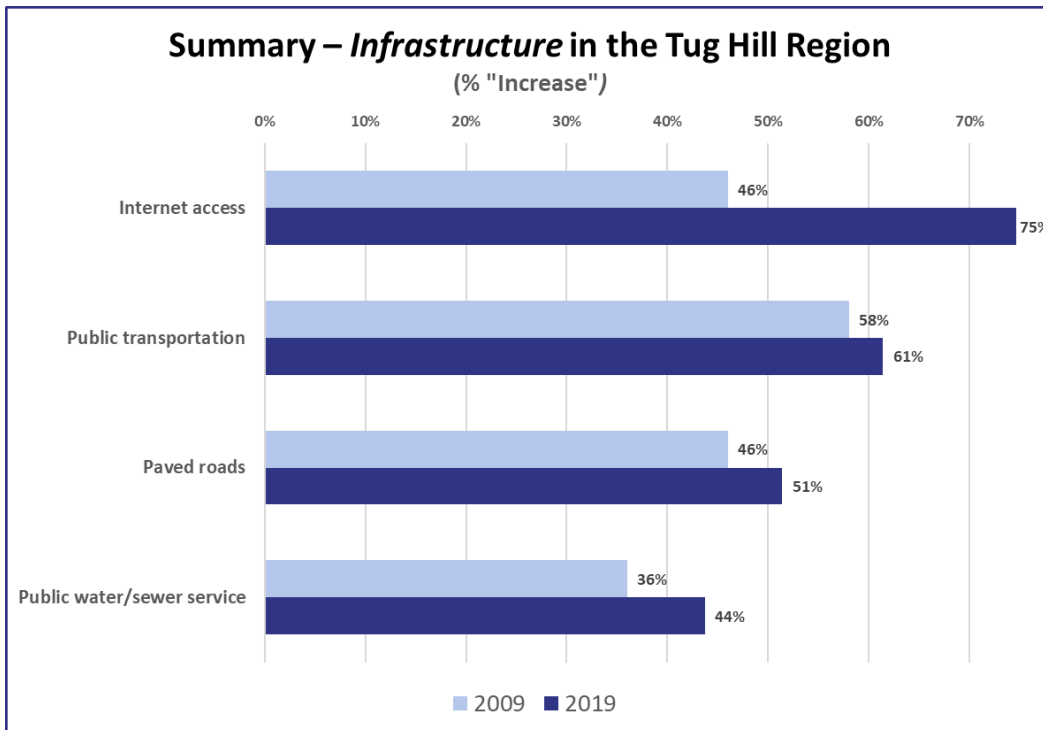
The primary observations that emerge from participants' preferences regarding potential expansion of *four studied infrastructure-related development survey items* in the Tug Hill Region in 2019 are the strong levels of support for expansion of the following two items (each with majority of participants in 2019 supporting an "Increase"): "Internet access" (75% respond "Increase"), and "Public transportation" (61% respond "Increase"). Notably, for each of the four studied infrastructure items less than 3% of participants respond "Decrease".

### 2.3.2 Highlighted *Trends* Among the 4 Infrastructure Items Between 2009-2019

Among the *four studied infrastructure-related development survey items* in the Tug Hill Region noteworthy and statistically significant trends or changes have been identified over the past decade in the following three potential developments: "Internet access" with a dramatic change from 46% responding "Increase" in 2009 to a 2019 rate of 75%, "Paved roads" with a change from 46% responding "Increase" in 2009 to a 2019 rate of 51%, and "Public water/sewer service" with a large change from 36% responding "Increase" in 2009 to a 2019 rate of 44%.

**Table 6** Summary – *Infrastructure* in the Tug Hill Region (2019 results)

<i>Infrastructure Component</i>	Increase	Keep, but do not increase	Decrease	Not sure
Internet access	74.6%	22.6%	0.2%	2.6%
Public transportation	61.4%	28.0%	2.3%	8.4%
Paved roads	51.4%	45.0%	2.7%	1.0%
Public water/sewer service	43.7%	44.7%	1.8%	9.7%



## 2.4

# Improving the Future of the Tug Hill Region – Energy (Tables 45-49)

### 2.4.1 Highlighted Findings Regarding *Relative Standings* Among the 5 Energy Items

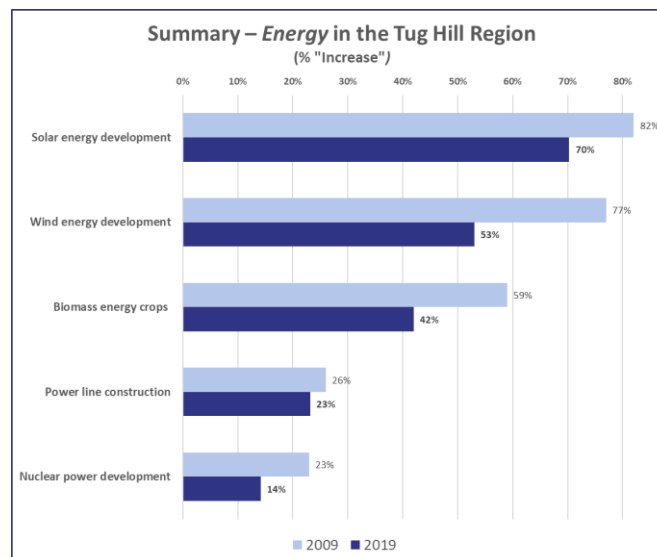
A clear separation emerges among participants' preferences regarding potential expansion of *five studied energy-related development survey items* in the Tug Hill Region in 2019. Strong levels of support for expansion, with "Increase" as a most common response, have been found for: "Solar energy" (70% of participants in 2019 support an "Increase", while only 4% respond "Decrease"), "Wind energy" (53% of participants in 2019 support an "Increase", while only 9% respond "Decrease"), and "Biomass energy crops" (42% of participants in 2019 support an "Increase", while only 6% respond "Decrease"). However, participants are less supportive of expansion of the other two studied *energy-related developments*: "Power line construction" (only 23% of participants in 2019 support an "Increase", and 15% respond "Decrease"), and "Nuclear power" (only 14% of participants in 2019 support an "Increase", while 42% respond "Decrease").

### 2.4.2 Highlighted *Trends* Among the 5 Energy Items Between 2009-2019

Among the *five studied energy-related development survey items* in the Tug Hill Region noteworthy and statistically significant trends, specifically decreases in support for expansion, have been identified over the past decade in the following four potential developments: "Solar energy" with a dramatic change from 82% responding "Increase" in 2009 to a 2019 rate of 70%, "Wind energy" with a change from 77% responding "Increase" in 2009 to a 2019 rate of 53%, "Biomass energy crops" with a change from 59% responding "Increase" in 2009 to a 2019 rate of 42%, and "Nuclear power" with a large change from 23% responding "Increase" in 2009 to a 2019 rate of 14%.

**Table 7** Summary – *Energy* in the Tug Hill Region (2019 results)

<i>Energy Development</i>	Increase	Keep, but do not increase	Decrease	Not sure
Solar energy development	70.3%	22.3%	4.4%	3.0%
Wind energy development	53.0%	34.4%	8.5%	4.1%
Biomass energy crops	42.0%	37.1%	6.2%	14.7%
Power line construction	23.2%	56.3%	14.5%	6.0%
Nuclear power development	14.2%	34.6%	42.0%	9.2%



## 2.5

# Improving the Future of the Tug Hill Region – *Economy* (Tables 50-54)

### 2.5.1 Highlighted Findings Regarding *Relative Standings* Among the 5 Economy Items

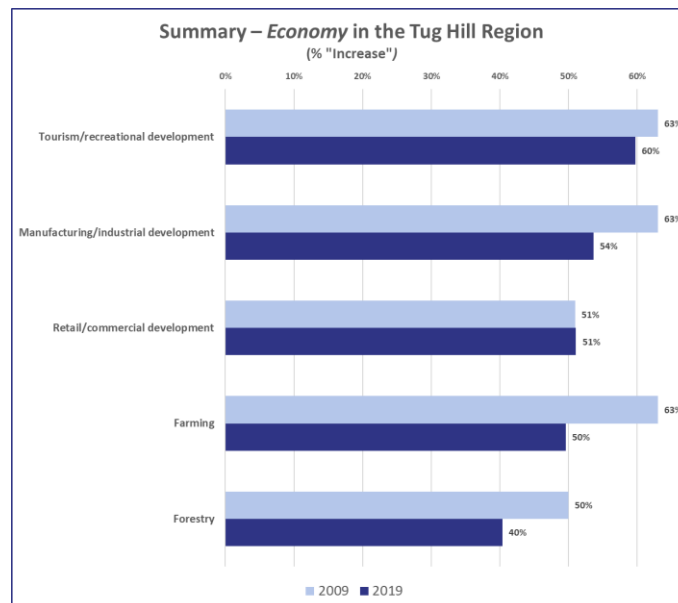
Participants' preferences regarding potential expansion of *five studied economy-related development survey items* in the Tug Hill Region in 2019 are typically in support of "Increasing" the development. For the following *four economy-related development survey items* the response of "Increase" is the most common reported: "Tourism/recreational" (60% of participants in 2019 support an "Increase", while only 2% respond "Decrease"), "Manufacturing/industrial" (54% of participants in 2019 support an "Increase", while only 6% respond "Decrease"), "Retail/commercial" (51% of participants in 2019 support an "Increase", while only 4% respond "Decrease"), and "Farming" (50% of participants in 2019 support an "Increase", while only 1% respond "Decrease"). Participants are less supportive of expansion of "Forestry" (only 40% of participants in 2019 support an "Increase", while 52% respond "Keep the same").

### 2.5.2 Highlighted *Trends* Among the 5 Economy Items Between 2009-2019

Among the *five studied economy-related development survey items* in the Tug Hill Region noteworthy and statistically significant trends, specifically decreases in support for expansion, have been identified over the past decade in the following three potential developments: "Forestry" with a change from 50% responding "Increase" in 2009 to a 2019 rate of only 40%, "Farming" with a change from 63% responding "Increase" in 2009 to a 2019 rate of only 50%, and "Manufacturing/industrial" with a change from 63% responding "Increase" in 2009 to a 2019 rate of only 54%.

**Table 8** Summary – *Economy* in the Tug Hill Region (2019 results)

<i>Economic Activity</i>	Increase	Keep, but do not increase	Decrease	Not sure
Tourism/recreational development	59.8%	37.3%	1.7%	1.2%
Manufacturing/industrial development	53.7%	37.6%	5.7%	3.1%
Retail/commercial development	51.1%	42.3%	4.4%	2.2%
Farming	49.6%	47.4%	1.2%	1.8%
Forestry	40.4%	51.5%	4.5%	3.6%





## 2.6

# Improving the Future of the Tug Hill Region – *Land Use* (Tables 55-58)

### 2.6.1 Highlighted Findings Regarding *Relative Standings* Among the 4 Land Use Items

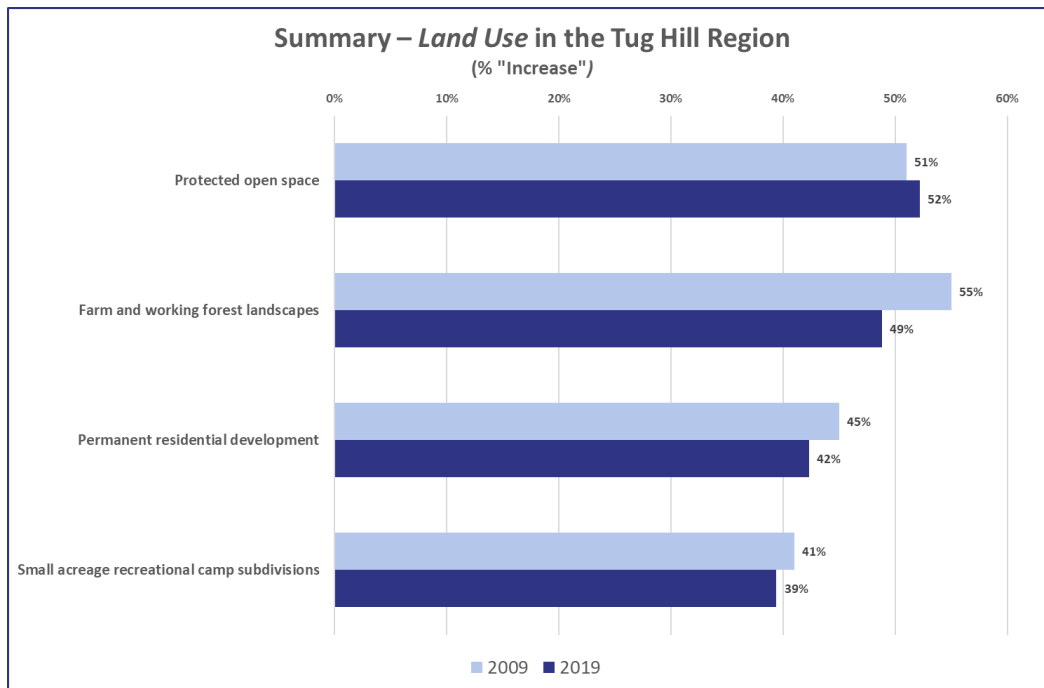
In general, participants' preferences regarding potential expansion of *four studied land-use-related development survey items* in the Tug Hill Region in 2019 are typically quite evenly-divided between "Increasing" and "Keeping the same". Results for responding with these two opinions in 2019, respectively, for each *potential land-use-related developments* are: "Protected open space" (52% of participants in 2019 support an "Increase", while 42% respond "Keep the same"), "Farm and working forest landscapes" (49% and 45%, respectively), "Permanent residential development" (42% and 49%, respectively), and "Small acreage recreational camp subdivisions, less than 5 acres" (39% and 46%, respectively).

### 2.6.2 Highlighted *Trends* Among the 4 Land Use Items Between 2009-2019

Among the *four studied land-use-related development survey items* in the Tug Hill Region a noteworthy and statistically significant trend has been found for only one of the potential developments: "Farm and working forest landscapes" with a change from 55% responding "Increase" in 2009 to a 2019 rate of only 49%.

**Table 9** Summary – *Land Use* in the Tug Hill Region (2019 results)

<i>Land Use Issue</i>	Increase	Keep, but do not increase	Decrease	Not sure
Protected open space	52.2%	41.7%	3.4%	2.7%
Farm and working forest landscapes	48.8%	45.0%	0.7%	5.5%
Permanent residential development	42.3%	49.4%	5.0%	3.2%
Small acreage recreational camp subdivisions (less than 5 acres)	39.4%	46.0%	9.1%	5.5%



## 2.7

# Improving the Future of the Tug Hill Region – *Government* (Tables 59-61)

### 2.7.1 Highlighted Findings Regarding *Relative Standings* Among the 3 Government Items

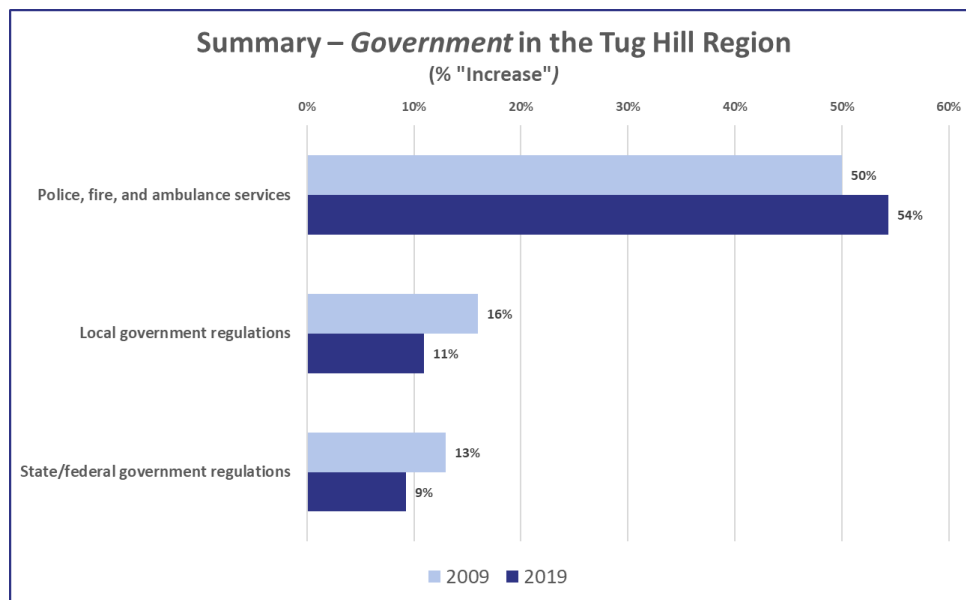
A clear separation emerges among participants' preferences regarding potential expansion of *three studied government-related development survey items* in the Tug Hill Region in 2019. There is strong support for expansion of "Police, fire, and ambulance services", with "Increase" as a most common response (54%), and another 42% responding "Keep the same". In contrast, there is very little support in 2019 for an "Increase" in either "Local government regulations, includes zoning and land use laws" (11% response "Increase, while 40% respond "Decrease"), or "State/federal government regulations" (9% response "Increase, while 53% respond "Decrease").

### 2.7.2 Highlighted *Trends* Among the 3 Government Items Between 2009-2019

Among the *three studied government-related development survey items* in the Tug Hill Region noteworthy and statistically significant trends, specifically decreases in support for expansion, have been identified over the past decade in the following two potential developments: "Local government regulations, includes zoning and land use laws" with a dramatic change from 25% responding "Decrease" in 2009 to a 2019 rate of 40%, and "State/federal government regulations" with a large change from 35% responding "Decrease" in 2009 to a 2019 rate of 53%.

**Table 10** Summary – *Government* in the Tug Hill Region (2019 results)

<i>Government Role</i>	Increase	Keep, but do not increase	Decrease	Not sure
Police, fire, and ambulance services	54.4%	42.1%	2.4%	1.2%
Local government regulations (includes zoning and land use laws)	11.0%	44.7%	39.5%	4.8%
State/federal government regulations	9.3%	34.2%	52.5%	4.0%



# Section 3

## Detailed Statistical Results for the Study – Presented Tabular and Graphically

This section of the Report of Findings provides a detailed presentation of the results for each of the questions in the survey. The results for each of these survey questions are presented in this section of the report with the following organizational structure, when possible using [four](#) reporting-out processes:

- (1) The **current 2019 Tug Hill Region region-wide results as well as the 2009 Tug Hill Region region-wide results** for all sampled residents are summarized in a cross-tabulation table that shows the sampled frequency (unweighted) and sample proportion (weighted) for each possible survey response for the survey question (recall, the % results are weighted for Gender, Age, and Education Level). This table is shaded a darker blue, and is designed to answer the following question: *Has the situation changed significantly in the region over the past decade?*

For further detailed explanation of the statistical concepts of “Margin of Error” and “Statistical Significance”, to assist the reader in best interpreting and utilizing the presented information in Section 3 of this report, please refer to the Technical Comments on pages 7-14 of this document. However, in short, one may interpret any statistics presented in the *2019 region-wide results* in this Section 3 of this report as having a margin of error of  $\pm 3.5\%$ , and in short, one may interpret any differences observed in *trend comparison* results tables, and those observed in *correlational cross-tabulation* results tables, presented in this Section 3 of this report according to the following process.

1. **Sample percentages in the same row and subtable (comparing demographic subgroups) not sharing the same subscript are significantly different at  $p < 0.05$ .**
2. **Sample percentages in the same row and subtable (comparing demographic subgroups) sharing the same subscript are not significantly different at  $p < 0.05$ .**

- (2) The **2019 Tug Hill Region-wide results for each survey question have been cross-tabulated** by each of the demographic factors of Residence Type, County, and Council of Government. These tables show all weighted percentage response distributions within each subgroup to be compared, with all statistically significant differences highlighted as described above. This table is shaded a lighter blue, and is designed to answer the following question: *Is the situation significantly different when comparing subgroups in 2019?*
- (3) A **trend analysis over the past 10 years within each subgroup** has also been completed and shown in a table for each survey question. These tables show all weighted percentage response distributions within each subgroup to be compared in each of the years 2009 and 2019, with all statistically significant changes over the past 10 years highlighted as described above. This table is shaded gray, and is designed to answer the following question: *Has the situation changed significantly within specific subgroups over the past decade?*

- (4) A **trend analysis and correlation analysis summary has been provided graphically** as a horizontal stacked bar graph that illustrates the results for each of the three tabular presentations described above for each survey question (using a specific response outcome, or collapsed outcome)

### **“Framing” a Statistic – Providing Perspective to Better Understand, Interpret, and Use Survey Data**

The rationale behind providing so many analyses (statistics) for every survey question included in this study is that one never fully understands the information contained in a reported statistic without “framing” that statistic. Framing involves adding a more rich perspective to the value, or size, of some reported statistic. For example, when *Jefferson County* residents and landowners were asked: “What is your rating of healthcare in the region?”, the result in the current 2019 study is that 18.3% of the Jefferson County participants responded with “Excellent” (reported later in Table 16). So .... what does this 18.3% really mean? Often-times community-based researchers will describe the process of framing a statistic as completing as many as possible of the six following comparisons (“frames”) to better understand a reported statistic from a sample:

- **Within Response Scale Distribution**  
(Is it a majority? 4:1 ratio? “Three times more likely to indicate “Excellent” .... than to indicate “Poor”?)
- **Trend Across Time**  
(Has it increased? Decreased?)
- **Compare to Regional Average**  
(Compare to regional average? Compare to NYS statewide results?)
- **Compare to Target/Benchmark**  
(Compare to an organization’s workplan goal or target?)
- **Ranking/Relative Standing Among Similar Variables**  
(Among many different similar attributes or choices that all use the same response scale, is this specific item ranked first? Last?)
- **Cross-tabulations by Potential Explanatory Variables**  
(Age-dependent? Gender-dependent? Education-dependent? Income-dependent? County-dependent? Residence Type-dependent?)

The design of this final study report of findings includes the types of tables and graphs that facilitate the “framing” described above precisely to allow land use development and planning leaders to best frame the statistics included in this report, best understand the statistics included, and make best decisions in the future regarding how to use the statistics and utilize them in their strategic planning decisions. As has been mentioned several times previously, if one has further questions about “framing a statistic” please contact the professional staff at the *Center for Community Studies*.

# Section 1

## Overview of the Study and its Methodology

## The Goals of this Study

The *Center for Community Studies* at Jefferson Community College was established in October 1999, to engage in a variety of community-building and community-based research activities and to promote the productive discussion of ideas and issues of significance to our region. In collaboration with community partners, The *Center* conducts research that will benefit the local population, and engages in activities that reflect its commitment to enhancing the quality of life of the area. The Tug Hill Resident and Landowner Survey is one specific activity conducted by The *Center* on behalf of the *Tug Hill Commission* to gauge the attitudes and opinions of a representative sample of adult residents and landowners from the Tug Hill Region. This survey study was first completed in the Tug Hill Region of Northern New York State in 2009, and in 2019 the study was repeated with a goal to identify trends in attitudes, if any, among residents and landowners over the past decade. The Tug Hill Region of New York State includes all or a portion of four counties in the northern part of the state (Jefferson, Lewis, Oneida, and Oswego Counties).

The *Tug Hill Commission* typically completes a resident and landowner survey in Northern New York State approximately once every ten years to better understand the current situation and monitor any changes in attitudes and preferences. The attitudes and preferences of most interest in this decennial study are related to planning, development, and land use in the region. Specifically, the study includes investigation regarding issues related to: Quality of Life, Recreation, Infrastructure, Energy, Economy, Land Use, and Local Government.

This study is designed with the following three primary goals, essentially these goals are reasons why land use and planning leadership would benefit from collecting this type of survey data – ***what can be accomplished with these data?***

### Study Goal #1

**Planning** – There is a goal to collect current planning and land use attitude and preference information via surveying local adult residents to provide data that will be useful to planning professionals to best make data-driven decisions about future land use and development goals, objectives, programs, services, initiatives, interventions, promotions, and/or potential policies in Northern New York. In summary, the collected data will provide current measurements of public opinion and preference to help *support and plan future activities* for the *Tug Hill Commission* and the local *Councils of Government* (COG's).

### Study Goal #2

**Education** – There is a goal to collect current planning and land use attitude and preference information via surveying local adult residents to provide data that will be useful to Northern New York planning professionals to best demonstrate and explain local residents' opinions regarding potential future land use and development-related policy and/or law changes in the region. In summary, the collected data will provide current measurements of public opinion and preference to *educate and assist* local leaders, decision-makers, and elected officials in *making data-driven development-related policy decisions in the future*. The data assists planning and development experts in shedding light upon local decision-maker questions such as "What does the public think about this possible change in policy or law in their community?"

### Study Goal #3

**Evaluation** – There is a goal that involves using the adult survey data to allow for evaluation of the impact of past initiatives and activities provided by the *Tug Hill Commission* and the local *Councils of Government* (COG's). A previous similar landowner and resident survey was completed in the Tug Hill Region in 2009. Comparison of the current (2019) survey results to the earlier survey results with identification of any statistically significant trends is useful to planning professionals to attempt to *identify which initiatives have been most effective, or most successful*. Essentially this goal is to answer the questions: "Have Tug Hill Region planning groups been successful in attaining their goals as outlined in their work plans?" and "Has there been any impact among the local population?"

This study, as with almost any other survey study, also has further potential outcomes for the *participants* that could be effective and beneficial. The process of participating in an interview or survey could result with either or both of the following two outcomes, essentially these outcomes are ***additional reasons why an organization would benefit from collecting this type of survey data***.

### Participant Outcome #1

**Awareness** – the conversation that transpires when an interview occurs, a conversation that is focused on Tug Hill Region planning topics, very likely provides educational information to participants that they were not already aware of – the survey process *educates* the participants regarding local planning and development issues.

## **Participant Outcome #2**

**Engagement** – By virtue of the consideration of their views and preferences regarding planning and development issues via completing an interview, participants have at a minimum cerebrally engaged in the topic, and potentially, could become more likely to actually become further actively engaged in *Tug Hill Commission* and *Council of Government* activities, initiatives, and goals, and possibly become more engaged in improving their community.

This document is a summary of the results of the 2019 Tug Hill Resident and Landowner Survey. Results have been compared to 2009 study results to identify any statistically significant trends. Additionally, the demographic characteristics of County, Residential Status, and Council of Government (COG) are investigated with the 2019 data as explanatory variables that may be correlated with quality-of-life indicators and preferred future development options for the region. Finally, 10-year trend analyses *within* each demographic subgroup have been completed and reported. It is standard methodology with professional surveys to provide this more detailed trend and cross-tabulation information to the reader – information that may assist in better explaining the overall findings. A test for statistical significance has been completed for each of the cross-tabulations and trend analyses. The results provide important information about contemporary thinking of local leaders and citizens; and over time, will continue to provide important baseline and comparative information as well. These results should prove to be useful to policy-makers and elected officials in the Tug Hill Region.

## **The Survey Instrument**

The survey instrument used in this study was developed through the collective efforts of the leadership at the *Tug Hill Commission*, together with the professional researchers at the *Center for Community Studies* at Jefferson Community College. The survey included approximately fifty survey items (questions) organized in seven separate sections of the interview, as well as approximately ten demographic variables. Copies of the script and survey instrument are attached as Appendix I. The seven specific planning and land use and development topics, or sets of survey question sections that are studied and reported in the remainder of this document are:

- 1 – Quality-of-Life Issues in the Tug Hill Region – Satisfaction**
- 2 – Improving the Future of the Tug Hill Region – Recreation**
- 3 – Improving the Future of the Tug Hill Region – Infrastructure**
- 4 – Improving the Future of the Tug Hill Region – Energy**
- 5 – Improving the Future of the Tug Hill Region – Economy**
- 6 – Improving the Future of the Tug Hill Region – Land Use**
- 7 – Improving the Future of the Tug Hill Region – Government**

## **Interview Methodology**

A goal of 1,000 interviews of adults who are either year-round or seasonal residents of the Tug Hill Region was identified at the onset of this 2019 study. An overall sample size of 1,000 was selected to facilitate further cross-tabulation of the resulting data while ensuring that “within-subgroup” sample sizes would be sufficiently large to facilitate statistical estimation and significance testing without unreasonably large margins of error and less-than-powerful statistical tests

To further ensure that the sample was not unduly biased toward the attitudes, opinions, and preferences of the year-round residents (local residents), a stratified sampling design was employed. The sampling frame was generated in two separate portions. First, a random list of current telephone numbers of Tug Hill Region residents was selected, including both landline and cellular numbers. The telephone numbers were obtained from an unscrubbed list, ensuring that individuals whose households are included in the “telemarketing do-not-call list” would be represented in this study. This list of telephone numbers comprised the sampling frame for year-round residents. Second, the contact information for all current property owners *who are not permanent residents of the Tug Hill Region* included in the property tax rolls was used to generate a second sampling frame of telephone numbers for the seasonal residents. Based upon the professional assessment of the staff of the *Tug Hill Commission*, a decision was made to complete approximately 800 interviews of year-round residents and approximately 200 interviews of seasonal residents. These target sample sizes were selected in an attempt to appropriately (proportionally) represent these two subgroups in the overall sample size of approximately 1,000.

All interviews were completed via telephone. To be eligible to complete the survey, the participant was required to be at least 18 years old. All telephone calls were made between 3:00 p.m. and 9:00 p.m. from a call center in Watertown, New York, between the dates of May 20<sup>th</sup>, 2019 and June 6<sup>th</sup>, 2019. The Jefferson Community College students who completed the interviews had completed training in human subject research methodology and effective interviewing techniques before the onset of this study. Professional staff from the *Center for Community Studies* supervised the telephone interviewing at all times. The result of two weeks of interviewing was that this study includes 1,000 adult participants, 213 seasonal residents and 787 permanent residents.



When a randomly selected telephone number was attempted, one of four results occurred: Completion of an interview; a Decline to be interviewed; an Invalid Number; or No Answer/Busy. Voluntary informed consent was obtained from each participant before the interview commenced. This sampling protocol included informing each participant that it was his or her right to decline to answer any and all individual questions within the interview. To be categorized as a completed interview, at least half of the questions on the survey had to be completed. The participant's refusal to answer more than half of the questions was considered a decline to be interviewed. The typical length of a completed survey was approximately ten minutes. Declines to be interviewed (refusals) were not called back in an attempt to convince the person to reconsider the interview. If no contact was made at a telephone number (No Answer/Busy), call-backs were made to the number. Telephone numbers that were not successfully contacted, and, as a result, were ultimately categorized as No Answer/Busy, were attempted a minimum of three times. No messages were left on answering machines at homes where no resident answered the telephone. No rewards were used to incentivize participation. The response rate results for the study are that approximately 35% of all successful contacts, where a person is actually talking on the phone with the interviewer, completed the survey. Within the field of local community-based research, when using telephone interview methodology, a response rate of 30%-40% of all successful contacts is considered quite successful.

After post-stratification weight algorithms have been applied to the results of this survey, the following distributions of sampling characteristics resulted for this study: 47% of all interviews were completed on the participants' cell phone, while 53% were completed on the participants' landline phone; with over 30% of participants indicating that they are "cell-only" with no landline telephone in their household.

In accordance with the American Association of Public Opinion Research (AAPOR) Transparency Initiative pledge, the following details and disclosure for the **telephone-interviewing** employed in this study, including the following characteristics and facts should be considered by any reader:

1. **(T) Dates of Data Collection:** May 20 – June 6, 2019.
2. **(R) Recruitment:** All permanent resident participants were recruited to participate via telephone by random selection from a list of all available valid active residential and cellular telephone lines in the Tug Hill Region of New York State, USA. Seasonal residents were identified by county-level tax assessment records as individuals who receive their tax bill at a permanent address that is different than the address of the property in the Tug Hill Region. A reverse append was completed to generate the list of phone numbers for these seasonal resident individuals.
3. **(A) Population Under Study:** All adult permanent and seasonal residents of the Tug Hill Region in Jefferson, Lewis, Oneida, and Oswego Counties, New York, USA. There are approximately 100,000 adults in this population.
4. **(N) List Source:** Electronic Voice Services, Inc., [www.voice-boards.com](http://www.voice-boards.com)
5. **(S) Sampling Design:** The entire phone lists described in #2 were randomized, and approximately 10,000 valid residential and cellular phone numbers were selected to contact to invite to participate in the survey.
6. **(P) Population Sampling Frame:** As described in #2, the sampling frame includes all available residential listed phone numbers, for adults who are seasonal or permanent residents of the Tug Hill Region in New York State, both landlines and cellular phones included.
7. **(A) Administration:** Survey administered via telephone from a call center in Watertown, NY, only in English.
8. **(R) Researchers:** The study is a decennial survey completed by the *Center for Community Studies* at Jefferson Community College, with funding provided by the Tug Hill Commission., Watertown, New York, USA
9. **(E) Exact Wording of Survey:** Survey instrument is attached as an appendix
10. **(N) Sample Sizes:** As is discussed in much greater detail for this study later in this report: n=1,000 overall for the study, with an overall average margin of error of  $\pm 3.5\%$
11. **(C) Calculation of Weights:** As is discussed in much greater detail for this study later in this report: results are weighted by gender, age, and educational attainment. Target weighting parameters are obtained from the U.S. Census for gender, age, and educational attainment.
12. **(Y) Contact Information:** Mr. Joel LaLone, Research Director, *Center for Community Studies*, contact information on page 2.

## **The Nature of the Sample Collected and Weighting the Data**

The demographic characteristics of the sampled adult residents in this study can be used to attain the following three separate objectives. Initially, this information adds to the knowledge and awareness about the true characteristics of the population of adult residents and landowners in the Tug Hill Region. Secondly, this demographic information facilitates the ability for the data to be sorted or partitioned to investigate for significant relationships – relationships between demographic characteristics of people and their attitudes and preferences regarding the future of the Tug Hill Region. Identification of significant relationships allows land use planning and development organizations such as the *Tug Hill Commission* to use the data more effectively to identify specific subgroups of a regional population for programming and interventions, and ultimately, measure impact and change within these subgroups. Finally, the demographic information



also serves an important purpose when compared to established facts regarding the population demographics among adults in a sampled region – to analyze the representativeness of the sample that was randomly selected in this study.

Analysis of the raw demographic distributions collected via the hybrid landline-cellular sampling design employed in this study suggested the inclusion of the following factors in the post-stratification weight algorithms that have been applied to all data that are reported later in this study: Gender, Age, and Educational Attainment. The target parameters for these demographic characteristics, and resulting weight algorithms that have been applied, are residence-specific – each of the permanent and seasonal resident subgroup survey data has been weighted toward their appropriate gender-age-education composition characteristics. These weight factors allow one to statistically adjust for under and over representation of demographic subgroups captured in the raw unweighted sample. The weighting process enhances the representativeness of a selected sample and allows for use of the sample results to accurately generalize to the population of interest. The most current available estimated demographic characteristics reported by the U.S. Census Bureau have been used as weight targets. The results for the demographic questions in the survey are summarized in Table 1.

**Table 1** Demographics of Participants – *The Nature of this Study Sample*  
(Weighted by Gender, Age, and Educational Attainment)

	Tug Hill Initial Study Sample (March 2009)	Tug Hill Follow Up Study Sample (May 2019)
<b>Gender:</b>		
Male	50%	50%
Female	50%	50%
<b>Age:</b>		
18-34 years of age	24%	22%
35-64 years of age	58%	57%
65 years of age or older	18%	21%
<b>Education Level:</b>		
High school graduate (or less)	55%	52%
Some college (less than 4-year degree)	27%	28%
College graduate (4+ year degree)	18%	20%
<b>Annual Household Income:</b>		
Less than \$10,000	5%	3%
\$10,000-\$50,000	38%	29%
\$50,001-\$100,000	35%	37%
\$100,001 or more	9%	19%
Refused	13%	11%
<b>County of Tug Hill Residence/Property:</b>		
Jefferson	25%	23%
Lewis	17%	25%
Oneida	30%	30%
Oswego	28%	23%
<b>COG:</b>		
CTHC	17%	26%
NOCCOG	28%	29%
NorCOG	13%	8%
RACOG	13%	12%
SRCG	10%	7%
Unaffiliated	19%	18%
<b>Residence Type:</b>		
Permanent	79%	79%
Seasonal	21%	21%

All data compilation, weighting, and statistical analyses within this study have been completed using SPSS, Release 25.

**Technical Comments – Generalizability and Margin of Error – Estimation with Confidence Intervals**

The results of this study may be presented to a very wide array of readers who, no doubt, have a very wide variety of statistical backgrounds. The following comments are provided to give guidance for interpretation of the presented findings so that readers with less-than-current statistical training might maximize the use of the information contained in this study.

Given the extreme diligence placed on scientific sampling design and the high response rates, after application of post-stratification weightings by gender, age, and education level, it is felt that this random sample of Tug Hill Region adult residents and property owners does accurately represent the population of all Tug Hill Region adult residents and property owners. Therefore, the findings of this study may be generalized to the population of all adults of at least 18 years of age living and/or owning property in the Tug Hill Region.

The exact margin of error when estimating for an entire population is question-specific, depending upon the sample size for each question and sample statistics that resulted for each question. Sample sizes tend to vary for each question on the survey, since some questions are only appropriate for certain subgroups and/or as a result of persons refusing to answer questions. **In general, the results of this survey for any questions that were answered by the entire sample of 1,000 participants in 2019 may be generalized to the population of all adults at least 18 years of age living and/or owning property in the Tug Hill Region with a 95% confidence level to within a margin of error of approximately  $\pm 3.5$  percentage points.** For results that are investigated for certain specific subgroups, such as to only those who are permanent year-round residents, the resulting smaller sample sizes allow generalization to the specific subpopulation of all adults at least 18 years of age living and/or owning property in the Tug Hill Region with a 95% confidence level to within a margin of error that would be *larger* than  $\pm 3.5$  percentage points. Further explanation of this margin-of-error-size issue will follow.

In the preceding paragraph the margin of error for this survey has been stated as *approximately  $\pm 3.5$  percentage points*. Therefore, when a percentage is observed in one of the following tables in the *Presentation of Results*, the appropriate interpretation is that we are 95% confident that if *all* Tug Hill Region adult residents and property owners were surveyed (rather than just the 1,000 that were actually surveyed), the percentage that would result for all adult residents and property owners would be within  $\pm 3.5$  percentage points of the sample percentage that has been actually calculated and reported.

For example, in Table 31 later in this report, one can observe that 28.6% of our sample of 999 adult residents and property owners in 2019 report that they rate the *Overall Quality of Life* in the Tug Hill Region as *Excellent*. NOTE: the reason that the sample size for this survey question is  $n=999$  rather than  $n=1,000$  is that 1 participant chose to not answer this survey question. With this sample result, we can infer with 95% confidence (only a 5% chance that our inference will not be true) that if all Tug Hill Region adult residents and property owners were asked, somewhere between 25.1% and 32.1% of the population of over 100,000 Tug Hill Region adult residents and property owners would indicate that they rate the *Overall Quality of Life* in the Tug Hill Region as *Excellent* (using a margin of error of  $\pm 3.5\%$ , and calculating  $28.6\% \pm 3.5\%$ ). This resulting interval (25.1%-32.1%) is known as a **95% Confidence Interval**.

To summarize at this point, with a sample of  $\approx 1,000$  completed surveys in the region, **data reported in this study for the Tug Hill Region in 2019 will have an average margin of error of approximately  $\pm 3.5\%$** , using a 95% confidence level and having included the design effect of weighting on that margin of error. Within each of the four individual studied counties and within each of the studied COG's, of course, the margin of error will be larger than  $\pm 3.5\%$ , due to subgroup sample sizes of less than  $\approx 1,000$ .

The precise margin of error when using the sample results in this study to construct a confidence interval to estimate a population percentage for the entire Tug Hill Region, however, will not always be  $\pm 3.5\%$ . There is not one universal value of a margin of error that can be precisely calculated and used for the results for every question included in this survey, or for that matter, any multiple-question survey. **Calculation methods used for generating a very precise measurement of the margin of error depend upon the following four factors**, which include three factors in addition to the sample-size factor that has just been addressed:

1. The **sample size** is the number of adults who validly answered the survey question. The sample size will not always be  $\approx 1,000$  since individuals have a right to omit any question. Additionally, some survey questions were only posed after screening questions. Further, if one investigates a certain subgroup, such as only those individuals who are seasonal residents, obviously the sample size will be smaller than  $\approx 1,000$ . In general, the smaller the sample size then the larger the margin of error, and conversely, the larger the sample size then the smaller the margin of error.
2. The **sample proportion or percentage** is the calculated percentage of the sample who responded with the answer or category of interest (i.e. responded "Increase"). This percentage can vary from 0%-100%, and, of course, will change from question to question throughout the survey. In general, the further that a sample percentage varies from 50%, in either direction (approaching either 0% or 100%), the smaller the margin of error, and conversely, the closer that the actual sample percentage is to 50% then the larger the resulting margin of error. As an example, if 160 out of 400 sampled residents in a COG respond "Increase" to some land use attribute, then the sample proportion would be  $(160 \div 400 = 0.4 = 40\%)$ .
3. The **confidence level** used in generalizing the results of the sample to the population that the sample represented. In this study, the standard confidence level used in survey research, 95% confidence level, will be used for all survey questions.
4. The **design effect** (DEFF) is a factor used in the calculation of the margin of error that compensates for the impact upon the size of the margin of error of having a sample whose

demographic distributions do *not* well-parallel the distributions of the entire population that the sampling is attempting to represent. In general, the further that the sample demographic distributions deviate from the population distributions then the larger the design effect (thereby increasing the margin of error), and conversely, the closer that the sample demographic distributions parallel the population distributions then the smaller the design effect (thus, little or no effect upon the size of the margin of error). Essentially the design effect reflects the magnitude of the impact that reliance upon weighting of sample results to reduce nonresponse bias will have upon the reliability of population estimates.

In mathematical notation, the margin of error (ME) for each sample result for this study would be represented as:

$$ME = 1.96 \cdot \sqrt{\frac{p(100-p)}{n}} \cdot \sqrt{DEFF}$$

Where n=sample size = # valid responses to the survey question

N=population size

p=sample percentage for the survey question (between 0%-100%)

1.96 = the standard normal score associated with the 95% confidence level

DEFF = the design effect

and  $DEFF = \frac{n \cdot \sum w_i^2}{(\sum w_i)^2}$  (the design effect for this study is approximately 2.05)

with  $w_i$ =the poststratification weight associated with  $i^{\text{th}}$  of the 1,000 sampled individuals

An example of using this Margin of Error formula would be that if 250 Jefferson County residents/landowners are sampled and 100 of those 250 participants report that they “agree” with some statement, then the sample proportion is  $p=(100/250)=0.4=40\%$ . Therefore the margin of error for this smaller sample (whose n is only 250) that has a sample proportion that deviates a rather large distance from 50%, is found by:

$$ME = 1.96 \cdot \sqrt{\frac{p(100-p)}{n}} \cdot \sqrt{DEFF} = 1.96 \cdot \sqrt{\frac{(40)(100-40)}{250}} \cdot \sqrt{2.05} = 8.7\%$$

Please note this directly-calculated margin of error of  $\pm 8.7\%$  with a sample size of  $n=250$  is larger than the *average* margin of error reported for  $n=250$  in the following Table 2 (which reports an *average* margin of error of  $\pm 7.1\%$  when  $n=250$ ), as a result of the sample proportion (40%) being so close to 50%. However, this  $\pm 8.7\%$  calculation may be verified by cross-referencing  $p=40\%$  and  $n=250$  in Table 2.

Since the sample size varies (in fact, could conceivably be different for every question included in a survey) and the sample percentage varies (also, could conceivably be different for every question included in a survey) the following table (Table 2) has been provided for the reader to determine the correct margin of error to use whenever constructing a confidence interval using the sample data presented in this study. This table was generated using the ME formula shown above.

**Note that the top portion of Table 2 includes the *average* margin of error for selected sample sizes that could result for specific investigations of the survey data. It is the bottom (larger) table in Table 2 referencing both the sample size and the sample proportion that provides the margins of error with the greatest degree of precision.**

**Table 2 Margins of Error for Varying Sample Sizes**

Sample Size (n=...)	50	75	100	125	150	175	200	250	300	350	400	450	500	550	600	800	1000	
<b>Approximate Margin of Error</b>	15.9%	12.9%	11.2%	10.0%	9.2%	8.5%	7.9%	7.1%	6.5%	6.0%	5.6%	5.3%	5.0%	4.8%	4.6%	4.0%	3.5%	
<b>Varying Sample Sizes (n=___)</b>																		
Varying Sample %'s:	50	75	100	125	150	175	200	250	300	350	400	450	500	550	600	800	1000	
2%	5.6%	4.5%	3.9%	3.5%	3.2%	3.0%	2.8%	2.5%	2.3%	2.1%	2.0%	1.9%	1.8%	1.7%	1.6%	1.4%	1.2%	
4%	7.8%	6.3%	5.5%	4.9%	4.5%	4.2%	3.9%	3.5%	3.2%	2.9%	2.7%	2.6%	2.5%	2.3%	2.2%	1.9%	1.7%	
6%	9.4%	7.7%	6.7%	6.0%	5.4%	5.0%	4.7%	4.2%	3.8%	3.6%	3.3%	3.1%	3.0%	2.8%	2.7%	2.4%	2.1%	
8%	10.8%	8.8%	7.6%	6.8%	6.2%	5.8%	5.4%	4.8%	4.4%	4.1%	3.8%	3.6%	3.4%	3.2%	3.1%	2.7%	2.4%	
10%	11.9%	9.7%	8.4%	7.5%	6.9%	6.4%	6.0%	5.3%	4.9%	4.5%	4.2%	4.0%	3.8%	3.6%	3.4%	3.0%	2.7%	
12%	12.9%	10.5%	9.1%	8.2%	7.4%	6.9%	6.4%	5.8%	5.3%	4.9%	4.6%	4.3%	4.1%	3.9%	3.7%	3.2%	2.9%	
14%	13.8%	11.2%	9.7%	8.7%	8.0%	7.4%	6.9%	6.2%	5.6%	5.2%	4.9%	4.6%	4.4%	4.2%	4.0%	3.4%	3.1%	
16%	14.5%	11.9%	10.3%	9.2%	8.4%	7.8%	7.3%	6.5%	5.9%	5.5%	5.1%	4.8%	4.6%	4.4%	4.2%	3.6%	3.3%	
18%	15.2%	12.4%	10.8%	9.6%	8.8%	8.1%	7.6%	6.8%	6.2%	5.8%	5.4%	5.1%	4.8%	4.6%	4.4%	3.8%	3.4%	
20%	15.9%	13.0%	11.2%	10.0%	9.2%	8.5%	7.9%	7.1%	6.5%	6.0%	5.6%	5.3%	5.0%	4.8%	4.6%	4.0%	3.5%	
22%	16.4%	13.4%	11.6%	10.4%	9.5%	8.8%	8.2%	7.4%	6.7%	6.2%	5.8%	5.5%	5.2%	5.0%	4.7%	4.1%	3.7%	
24%	16.9%	13.8%	12.0%	10.7%	9.8%	9.1%	8.5%	7.6%	6.9%	6.4%	6.0%	5.6%	5.4%	5.1%	4.9%	4.2%	3.8%	
26%	17.4%	14.2%	12.3%	11.0%	10.1%	9.3%	8.7%	7.8%	7.1%	6.6%	6.2%	5.8%	5.5%	5.2%	5.0%	4.4%	3.9%	
28%	17.8%	14.5%	12.6%	11.3%	10.3%	9.5%	8.9%	8.0%	7.3%	6.7%	6.3%	5.9%	5.6%	5.4%	5.1%	4.5%	4.0%	
30%	18.2%	14.8%	12.9%	11.5%	10.5%	9.7%	9.1%	8.1%	7.4%	6.9%	6.4%	6.1%	5.8%	5.5%	5.3%	4.5%	4.1%	
32%	18.5%	15.1%	13.1%	11.7%	10.7%	9.9%	9.3%	8.3%	7.6%	7.0%	6.5%	6.2%	5.9%	5.6%	5.3%	4.6%	4.1%	
34%	18.8%	15.4%	13.3%	11.9%	10.9%	10.0%	9.4%	8.4%	7.7%	7.1%	6.6%	6.3%	5.9%	5.7%	5.4%	4.7%	4.2%	
36%	19.0%	15.6%	13.5%	12.0%	11.0%	10.2%	9.5%	8.5%	7.8%	7.2%	6.7%	6.3%	6.0%	5.7%	5.5%	4.8%	4.3%	
38%	19.3%	15.7%	13.6%	12.2%	11.1%	10.3%	9.6%	8.6%	7.9%	7.3%	6.8%	6.4%	6.1%	5.8%	5.6%	4.8%	4.3%	
40%	19.4%	15.9%	13.7%	12.3%	11.2%	10.4%	9.7%	8.7%	7.9%	7.3%	6.9%	6.5%	6.1%	5.9%	5.6%	4.9%	4.3%	
42%	19.6%	16.0%	13.9%	12.4%	11.3%	10.5%	9.8%	8.8%	8.0%	7.4%	6.9%	6.5%	6.2%	5.9%	5.7%	4.9%	4.4%	
44%	19.7%	16.1%	13.9%	12.5%	11.4%	10.5%	9.9%	8.8%	8.0%	7.4%	7.0%	6.6%	6.2%	5.9%	5.7%	4.9%	4.4%	
46%	19.8%	16.2%	14.0%	12.5%	11.4%	10.6%	9.9%	8.8%	8.1%	7.5%	7.0%	6.6%	6.3%	6.0%	5.7%	4.9%	4.4%	
48%	19.8%	16.2%	14.0%	12.5%	11.4%	10.6%	9.9%	8.9%	8.1%	7.5%	7.0%	6.6%	6.3%	6.0%	5.7%	5.0%	4.4%	
50%	19.8%	16.2%	14.0%	12.6%	11.5%	10.6%	9.9%	8.9%	8.1%	7.5%	7.0%	6.6%	6.3%	6.0%	5.7%	5.0%	4.4%	
52%	19.8%	16.2%	14.0%	12.5%	11.4%	10.6%	9.9%	8.9%	8.1%	7.5%	7.0%	6.6%	6.3%	6.0%	5.7%	5.0%	4.4%	
54%	19.8%	16.2%	14.0%	12.5%	11.4%	10.6%	9.9%	8.8%	8.1%	7.5%	7.0%	6.6%	6.3%	6.0%	5.7%	4.9%	4.4%	
56%	19.7%	16.1%	13.9%	12.5%	11.4%	10.5%	9.9%	8.8%	8.0%	7.4%	7.0%	6.6%	6.2%	5.9%	5.7%	4.9%	4.4%	
58%	19.6%	16.0%	13.9%	12.4%	11.3%	10.5%	9.8%	8.8%	8.0%	7.4%	6.9%	6.5%	6.2%	5.9%	5.7%	4.9%	4.4%	
60%	19.4%	15.9%	13.7%	12.3%	11.2%	10.4%	9.7%	8.7%	7.9%	7.3%	6.9%	6.5%	6.1%	5.9%	5.6%	4.9%	4.3%	
62%	19.3%	15.7%	13.6%	12.2%	11.1%	10.3%	9.6%	8.6%	7.9%	7.3%	6.8%	6.4%	6.1%	5.8%	5.6%	4.8%	4.3%	
64%	19.0%	15.6%	13.5%	12.0%	11.0%	10.2%	9.5%	8.5%	7.8%	7.2%	6.7%	6.3%	6.0%	5.7%	5.5%	4.8%	4.3%	
66%	18.8%	15.4%	13.3%	11.9%	10.9%	10.0%	9.4%	8.4%	7.7%	7.1%	6.6%	6.3%	5.9%	5.7%	5.4%	4.7%	4.2%	
68%	18.5%	15.1%	13.1%	11.7%	10.7%	9.9%	9.3%	8.3%	7.6%	7.0%	6.5%	6.2%	5.9%	5.6%	5.3%	4.6%	4.1%	
70%	18.2%	14.8%	12.9%	11.5%	10.5%	9.7%	9.1%	8.1%	7.4%	6.9%	6.4%	6.1%	5.8%	5.5%	5.3%	4.5%	4.1%	
72%	17.8%	14.5%	12.6%	11.3%	10.3%	9.5%	8.9%	8.0%	7.3%	6.7%	6.3%	5.9%	5.6%	5.4%	5.1%	4.5%	4.0%	
74%	17.4%	14.2%	12.3%	11.0%	10.1%	9.3%	8.7%	7.8%	7.1%	6.6%	6.2%	5.8%	5.5%	5.2%	5.0%	4.4%	3.9%	
76%	16.9%	13.8%	12.0%	10.7%	9.8%	9.1%	8.5%	7.6%	6.9%	6.4%	6.0%	5.6%	5.4%	5.1%	4.9%	4.2%	3.8%	
78%	16.4%	13.4%	11.6%	10.4%	9.5%	8.8%	8.2%	7.4%	6.7%	6.2%	5.8%	5.5%	5.2%	5.0%	4.7%	4.1%	3.7%	
80%	15.9%	13.0%	11.2%	10.0%	9.2%	8.5%	7.9%	7.1%	6.5%	6.0%	5.6%	5.3%	5.0%	4.8%	4.6%	4.0%	3.5%	
82%	15.2%	12.4%	10.8%	9.6%	8.8%	8.1%	7.6%	6.8%	6.2%	5.8%	5.4%	5.1%	4.8%	4.6%	4.4%	3.8%	3.4%	
84%	14.5%	11.9%	10.3%	9.2%	8.4%	7.8%	7.3%	6.5%	5.9%	5.5%	5.1%	4.8%	4.6%	4.4%	4.2%	3.6%	3.3%	
86%	13.8%	11.2%	9.7%	8.7%	8.0%	7.4%	6.9%	6.2%	5.6%	5.2%	4.9%	4.6%	4.4%	4.2%	4.0%	3.4%	3.1%	
88%	12.9%	10.5%	9.1%	8.2%	7.4%	6.9%	6.4%	5.8%	5.3%	4.9%	4.6%	4.3%	4.1%	3.9%	3.7%	3.2%	2.9%	
90%	11.9%	9.7%	8.4%	7.5%	6.9%	6.4%	6.0%	5.3%	4.9%	4.5%	4.2%	4.0%	3.8%	3.6%	3.4%	3.0%	2.7%	
92%	10.8%	8.8%	7.6%	6.8%	6.2%	5.8%	5.4%	4.8%	4.4%	4.1%	3.8%	3.6%	3.4%	3.2%	3.1%	2.7%	2.4%	
94%	9.4%	7.7%	6.7%	6.0%	5.4%	5.0%	4.7%	4.2%	3.8%	3.6%	3.3%	3.1%	3.0%	2.8%	2.7%	2.4%	2.1%	
96%	7.8%	6.3%	5.5%	4.9%	4.5%	4.2%	3.9%	3.5%	3.2%	2.9%	2.7%	2.6%	2.5%	2.3%	2.2%	1.9%	1.7%	
98%	5.6%	4.5%	3.9%	3.5%	3.2%	3.0%	2.8%	2.5%	2.3%	2.1%	2.0%	1.9%	1.8%	1.7%	1.6%	1.4%	1.2%	
<b>Average</b>	15.9%	12.9%	11.2%	10.0%	9.2%	8.5%	7.9%	7.1%	6.5%	6.0%	5.6%	5.3%	5.0%	4.8%	4.6%	4.0%	3.5%	

Another more precise and appropriate example illustrating the margin of error for this study will now be shown. If one has a goal to use this 2019 survey data to estimate the current percentage of the entire population of adult seasonal residents and landowners in the Tug Hill Region who respond to the question “Would you like the amount of parks and playgrounds in the Tug Hill Region increased, kept the same but not increased, or decreased?” with an answer of “Increased”, then reference to Table 32 later in this report shows that 58.1% of the 213 sampled adult seasonal residents in this 2019 study (n is found in Table 3 on the following page) respond with “Increase”. Using a margin of error of approximately ±9.8 percentage points (used n=200 from Table 2, closest included to the actual sample size of n=213 seasonal residents; and used p=58% from Table 2, closest included to the actual sample result of 58.1%), the result is that we are 95% confident that if all seasonal residents and landowners in the Tug Hill Region were interviewed and asked

“Would you like the amount of parks and playgrounds in the Tug Hill Region increased, kept the same but not increased, or decreased?”, the resulting percentage who would respond with “Increase” will be contained in the interval **58.1%±9.8%**, somewhere **between 48.3% and 67.9%**. This resulting interval is called a **confidence interval**. Note that if one does not wish to approximate the margin of error by using the closest column and closest row in Table 2 then he or she should use the ME formula shown on page 9 to directly calculate the appropriate margin of error.

With most community planning practitioners using survey-generated data the margins of error reported in Table 2 have a sufficient level of accuracy to easily apply for survey data that represents groups of varying sample sizes. If one were to wish to improve their level of accuracy of the margin of error (slightly improve), and/or if one is interested in determination of whether or not an observed difference when comparing samples (either comparing subgroup samples such as permanent residents to seasonal residents, or even comparing COGs’ overall samples of n≈100-300 to one another), then it is suggested that he or she calculate an exact margin of error using the formula illustrated on the preceding pages.

Note that the raw/unweighted sample sizes, and the weighted sample percentages, are the appropriate sample sizes and sample statistics that must be used when either approximating a margin of error using Table 2 or directly calculating using the ME formula provided. The raw/unweighted subgroup sample sizes for demographic subgroups in each of 2009 and 2019 are provided in Table 3. Again, after determining the raw/unweighted sample sizes for comparison subgroups of interest, one may refer to Table 2 in this study to identify the correct approximate margins of error (or directly calculate these margins of error with more accuracy and precision using the ME formula shown on preceding pages) if estimating proportions (or, “percentages” or “rates”) for population subgroups.

However, at times the results in this report will (and should be) presented to an audience that has less technical/statistical background than the typical members of a regional land use and development organization. In this instance, it could be beneficial to explain the margins of error that are appropriate to use for smaller subgroups of the entire sample that has been collected in more general (or, *approximate*) terms. These presentations are facilitated throughout this report by horizontal cross-tabulation bar graphs for each survey question that show the regional results in both 2009 and 2019 for key selected demographic subgroups. If one wishes to also report the margin of error for each bar in these horizontal bar graphs then it is possible that each bar is generated from a different sample size and then would have a different margin of error. Therefore, the following Table 3 is provided with *year 2009 and year 2019 raw/unweighted sample sizes* and resulting *approximate* margins of error for the common demographic subgroups that will be compared in the Tug Hill Region throughout the remainder of this report. Again, caution should be used in not over-interpreting the approximate margins of error presented in Table 3; these reported margins of error are “average” margins of error, averaging across varying sample proportions that could conceivably be the actual sample proportion for any survey question at each selected sample size. Table 3 is provided for explanation to some audience, for example, of the “typical margin of error when investigating land use planning-related results for only permanent residents in the Tug Hill Region in 2019.” Note that the margin of error results recorded in Table 3 were directly calculated using the mathematical formula shown on page 9.

**Table 3** Sample Sizes (unweighted) and Approximate Margins of Error Within Key Demographic Study Subgroups

Tug Hill Region Demographic Subgroups	2009		2019	
	Raw Sample Sizes (unweighted)	Approximate Average Margin of Error	Raw Sample Sizes (unweighted)	Approximate Average Margin of Error
<b>Overall Sample Size:</b> n=	956	±3.6%	1,000	±3.5%
<b>Residence Type:</b>				
Permanent	756	±4.1%	787	±4.0%
Seasonal	200	±7.9%	213	±7.7%
<b>County of Property/Residence in Tug Hill Region:</b>				
Jefferson	228	±7.4%	230	±7.4%
Lewis	163	±8.8%	228	±7.4%
Oneida	319	±6.3%	304	±6.4%
Oswego	244	±7.2%	238	±7.3%
<b>Council of Government (COG):</b>				
CTHC	141	±9.4%	253	±7.0%
NOCCOG	310	±6.4%	296	±6.5%
NorCOG	114	±10.5%	88	±12.0%
RACOG	106	±10.9%	136	±9.6%
SRCG	85	±12.2%	64	±14.0%
Unaffiliated	198	±8.0%	163	±8.8%

To illustrate the quick and convenient use of Table 3, again please refer to Table 31, regarding evaluation of the *Overall Quality of Life*. One can observe the evaluation of the *Overall Quality of Life* within various subgroups in 2019 – within the various COG’s (Councils of Government) in this table. *Among the participants who live and/or own property in NOCCOG*, when asked to evaluate of the *Overall Quality of Life* in the region, p=30.0% responded with “Excellent” in 2019.



However, the sample size is only n=296 participants who live and/or own property in NOCCOG, therefore, the margin of error will be larger than  $\pm 3.5\%$  since the sample size is less than n=1,000. Table 3 is provided to find the appropriate approximate margin of error to use for these smaller sample sizes. To illustrate, using Table 3 the appropriate margin of error to use with this NOCCOG subgroup would be  $\pm 6.5\%$ . Again, note that this margin of error is greater than the approximate  $\pm 3.5$  percentage points cited earlier since the sample size is only 296, much less than the entire sample of 1,000 adults in 2019. The interpretation would be that the margin of error for estimating that which would be expected to be true for the entire population of adult resident and/or property owners in NOCCOG would be approximately  $\pm 6.5\%$ . Finally, one could then state with 95% confidence that among all adult resident and/or property owners in NOCCOG, 30.0%  $\pm 6.5\%$ , or in other words, between 23.5% and 36.5%, evaluate the Overall Quality of Life in the region, as “Excellent.” The consumer of this report should use this pattern, or approach, when attempting to generalize any of these survey findings to entire adult populations, and/or subpopulations, of Tug Hill Region residents and/or property owners.

Finally, it should be noted that the margin of error is a measurement of random error, error simply due to the random chance of sampling. However, in survey research there are other potential sources of error, sources of error in addition to random error (which along with nonresponse error/bias are the only error encompassed by the margin of error calculated with a design effect). Response error, process error, bias in sample selection, social desirability bias, acquiescence bias, bias in question-phrasing, lack of clarity in question-phrasing, and undercoverage are additional common sources of other-than-random error. Methods that should be, and have been in this Tug Hill Region study, employed to minimize these other sources of error are: maximum effort to select the sample randomly, piloting and testing of utilized survey questions, extensive training of all data collectors (interviewers), and application of post-stratification algorithms. Hence, when using this study data to make estimates to the entire Tug Hill Region adult populations, as is the case in standard survey research practices, the margin of error will be the only error measurement cited and interpreted.

For more specific detail regarding the margin of error for any individual questions included in this survey, or with any statistical questions, please contact the staff of *The Center for Community Studies*.

**Technical Comments – Significance Testing – Identifying Region-wide Trends 2009-2019, Comparing Study Subgroups in 2019, Identifying Trends Within Subgroups Between 2009-2019, and Identifying Differences Between Similarly-measured Items**

When the reader wishes to determine whether or not an observed difference between 2009 and 2019 is statistically significant, or an observed difference between compared subgroups in a demographic cross-tabulation is statistically significant, or a difference in results within a subgroup over the past ten years is statistically significant, or even a difference observed between two similarly-measured items is statistically significant ... statistical tests of significance are the appropriate mathematical tools, and have been completed throughout this study.

For example, one might question “Does the 53.0% of the sampled residents and landowners in the Tug Hill Region surveyed in 2019 who indicate that they support “Increasing” wind energy development in the Tug Hill Region differ significantly from the 76.9% of the sampled residents and landowners in the Tug Hill Region who indicated that in the 2009 study?” (please refer to Table 45 to verify) Statistical significance tests have been completed and reported in this document for all trending, and correlation analysis questions such as this. All tests have been completed using the two-proportion, weighted proportions, z-test. Subsequent cell adjustment for all pairwise comparisons within a row of each innermost sub-table using the Bonferroni Multiple Comparison corrections has been completed when necessary. Tests assume equal variances. Tests have been completed using subtotals in place of subtotaled categories when appropriate, and multiple response variables are included for any choose-all-that-apply multiple response survey questions. All results for all significance tests are reported in the associated cross-tabulation contingency tables using APA-style subscripts. **Values (percentages) in the same row and sub-table not sharing the same subscript are significantly different at  $p < 0.05$  in the two-sided test of equality for column proportions, and cells that share a letter do not statistically significantly differ.** Cells with no subscript are not included in the tests. Categories with a column proportion equal to zero or one, or a sum of case weights is less than two, are not used in tests. All tests are completed at the 5% significance level ( $p < 0.05$  considered statistically significant).

**As an example, the cross-tabulation table associated with the trend analysis question posed above (Table 45, in Section 3 of this report) has been copied below, and since the 53.0% in 2019 and the 76.9% in 2009 do not share the same subscript, there is a statistically significant difference in the percentage of adults in the Tug Hill Region who indicate that they support increasing wind development – support for “Increasing” has diminished statistically significantly over the past decade.**

		Year			
		2009		2019	
		Percentage (weighted)	Frequency (unweighted)	Percentage (weighted)	Frequency (unweighted)
Wind energy development	Increase	76.9% <sub>a</sub>	724	53.0% <sub>b</sub>	528
	Keep, but do not increase	15.6% <sub>a</sub>	141	34.4% <sub>b</sub>	324
	Decrease	3.1% <sub>a</sub>	33	8.5% <sub>b</sub>	86
	Not sure	4.4% <sub>a</sub>	35	4.1% <sub>a</sub>	50
	Total	100.0%	933	100.0%	988

The identical significance-testing techniques and reporting methods that are described and shown on the preceding page with an example of comparing the combined regional results *across the two sampled years* are implemented throughout the remainder of this report (in Section 3) when comparing each of the following two additional types of investigations. **Essentially the decision rule remains: (1) if subgroups in the same row share the same subscript then the subgroups are the same (technically, “not statistically significantly different”), or (2) if subgroups in the same row have different subscripts then the subgroups are different.**

- (1) comparing subgroups to one another in 2019; such as the following from Table 45, again investigating for attitudes about wind energy development:

		Residential Status		County of Tug Hill Property			
		Year-round	Seasonal	Jefferson	Lewis	Oneida	Oswego
Wind energy development	Increase	52.8% <sub>a</sub>	54.0% <sub>a</sub>	49.4% <sub>a</sub>	46.6% <sub>a</sub>	53.6% <sub>a,b</sub>	62.9% <sub>b</sub>
	Keep, but do not increase	35.2% <sub>a</sub>	31.2% <sub>a</sub>	37.2% <sub>a</sub>	40.9% <sub>a</sub>	35.0% <sub>a</sub>	23.5% <sub>b</sub>
	Decrease	8.4% <sub>a</sub>	8.8% <sub>a</sub>	9.6% <sub>a</sub>	7.5% <sub>a</sub>	7.6% <sub>a</sub>	9.6% <sub>a</sub>
	Not sure	3.6% <sub>a</sub>	5.9% <sub>a</sub>	3.7% <sub>a</sub>	5.0% <sub>a</sub>	3.7% <sub>a</sub>	4.0% <sub>a</sub>
	Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Note that seasonal and permanent residents do not differ significantly in 2019 (both have subscript of “a”);

- (2) investigating for trends within compared subgroups, such as the following from Table 45, again investigating for attitudes about wind energy development:

		Residential Status				County of Tug Hill Property							
		Year-round		Seasonal		Jefferson		Lewis		Oneida		Oswego	
		2009	2019	2009	2019	2009	2019	2009	2019	2009	2019	2009	2019
Wind energy development	Increase	78.8% <sub>a</sub>	52.8% <sub>b</sub>	69.7% <sub>a</sub>	54.0% <sub>b</sub>	78.3% <sub>a</sub>	49.4% <sub>b</sub>	66.0% <sub>a</sub>	46.6% <sub>b</sub>	78.3% <sub>a</sub>	53.6% <sub>b</sub>	81.2% <sub>a</sub>	62.9% <sub>b</sub>
	Keep, but do not increase	14.1% <sub>a</sub>	35.2% <sub>b</sub>	21.6% <sub>a</sub>	31.2% <sub>b</sub>	10.3% <sub>a</sub>	37.2% <sub>b</sub>	27.6% <sub>a</sub>	40.9% <sub>b</sub>	15.2% <sub>a</sub>	35.0% <sub>b</sub>	13.6% <sub>a</sub>	23.5% <sub>b</sub>
	Decrease	3.2% <sub>a</sub>	8.4% <sub>b</sub>	2.7% <sub>a</sub>	8.8% <sub>b</sub>	4.4% <sub>a</sub>	9.6% <sub>b</sub>	3.7% <sub>a</sub>	7.5% <sub>a</sub>	2.7% <sub>a</sub>	7.6% <sub>b</sub>	2.0% <sub>a</sub>	9.6% <sub>b</sub>
	Not sure	4.0% <sub>a</sub>	3.6% <sub>a</sub>	6.0% <sub>a</sub>	5.9% <sub>a</sub>	7.0% <sub>a</sub>	3.7% <sub>a</sub>	2.6% <sub>a</sub>	5.0% <sub>a</sub>	3.7% <sub>a</sub>	3.7% <sub>a</sub>	3.3% <sub>a</sub>	4.0% <sub>a</sub>
	Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Note that support for “Increasing” has decreased significantly between 2009-2019 within in every subgroup compared above. (all comparisons have subscripts of “a” in 2009, and then “b” in 2019);

Finally, to determine whether or not a difference observed between two similarly-measured items is statistically significant, a slightly different significant testing method has been applied in this study.

The same concept of statistical significance that has been described in the preceding pages regarding “Trend Analyses” and “Comparison of Subgroups” is also applied when a researcher attempts to investigate whether or not results for one development issue (survey question) differs significantly from the result for another development issue (survey question). The focus now becomes the comparison of the level of support for increasing or decreasing development for various items ... is there statistically significantly more (or less) support for one item versus another? The technique that is recommended in this study to determine whether a statistically significant difference in support or satisfaction is present when comparing various development and land use issues is to apply the following method that has also been recommended by the New York State Department of Health in its presentation of the Expanded Behavioral Risk Factor Surveillance System (BRFSS). The NYSDOH Expanded BRFSS (on page 12 of 151 in the 2009 report) cites the following:

**“When the confidence intervals of two estimates do not overlap, they may be said to be statistically significantly different, i.e., these differences are unlikely related to chance and are considered true differences. If there is any value that is included in both intervals, the two estimates are not statistically significantly different.”**

In other words, first the reader must identify the specific response choice of interest. For example, is one interested in only investigating “Excellent”, or is one more interested in collapsing the two possible response choices of “Excellent” and “Good” together into a response choice group that could be referred to as “At Least Good”? Then, one may refer to Table 2 in this study to identify the correct *approximate* margins of error (or directly calculate these margins of error with more accuracy and precision using the ME formula shown and demonstrated on page 9) if estimating proportions (or, “percentages” or “rates”) for differing survey questions that are measured on the same scale. With these margins of error, two separate confidence intervals may be constructed, one for each issue, and the overlap-vs.-non-overlap rule recommended above by the NYSDOH may be applied to determine whether or not the observed sample difference between the survey items should be considered statistically significant. This technique for testing for statistical significance does include the design effect in measuring the standard error.

To illustrate a comparison of strength of support for two separate survey items, please consider the following two recreation-related items – “Increase Cross-country Skiing” (Table 36) and “Increase Motorboating/Jet Skiing” (Table 37).

**Cross-country skiing:** 2019 in the Tug Hill Region: in Table 36 n=989 participants and p=43.3% responded “Increase”; therefore from Table 2 the approximate margin of error is  $\pm 4.4\%$ . The resulting confidence interval for “Increase” in 2019 is:  $43.3\% \pm 4.4\%$ , or **(38.9%,47.7%)**.

**Motorboating/Jet Skiing:** 2019 in the Tug Hill Region: in Table 37 n=990 participants and p=30.7% responded “Increase”; therefore from Table 2 the approximate margin of error is  $\pm 4.1\%$ . The resulting confidence interval for “Increase” in 2019 is:  $30.7\% \pm 4.1\%$ , or **(26.6%,34.8%)**.

Since these two confidence intervals do not overlap, the difference in support in 2019 for increasing Cross-country Skiing (Table 36) versus Motorboating/Jet Skiing (Table 37) is considered statistically significant. In other words, based upon the sample data collected in this survey in 2019, the rate of supporting increasing Cross-country Skiing is significantly higher than the rate of supporting increasing Motorboating/Jet Skiing. The 43.3% rate found for Cross-country Skiing in 2019 is far enough away from (above) the 30.7% rate found for Motorboating/Jet Skiing to be a statistically significant difference, this 12.6% difference is quite *unlikely* to occur by random chance if the support-for-increase rates in the entire adult populations in the region are truly the same for these two compared recreational development possibilities.

In conclusion, the preceding comments regarding statistically significant differences between subgroups, statistically significant differences between different survey items, and statistically significant trends, are comments addressing **statistical significance** ... which, of course, is not one-and-the-same as **practical significance**. The reader should be reminded that statistical significance with respect to sample differences found addresses the concept of *probability*, as follows – “is this difference likely to occur in a sample of size  $n \approx 1,000$  (or, in the case of subgroups, samples of less than 1,000, at times) if there is no difference in the entire sampled populations... could the result simply be due to chance?” However, practical significance is an interpretation that is left to the subject area expert, since practical significance addresses the concept of *usefulness*, as follows – “is this difference identified in the collected data useful in the real world?” A *difference* identified in a sample (or, samples) may be statistically significant without being practically significant, however, a *difference* identified in a sample (or, samples) may *not* be practically significant without being statistically significant. To summarize, readers are warned not to over-interpret some practical significance or meaning for a difference in this study data that is mathematically deemed to be *not* statistically significant.

For more specific detail regarding the margin of error for this survey and the elements of statistical tests of significance, please contact the professional staff at the *Center for Community Studies*.



## Tug Hill Commission - Landowner Survey - 2019

### Introduction - Year-round Local Residents

Good evening. My name is (first name). I am calling from the Center for Community Studies at Jefferson Community College ("in Watertown, NY" if necessary), we are calling on behalf of the Tug Hill Commission. We are conducting a very brief survey of residents of (or, "landowners in") the Tug Hill Region. We are interested in your opinions about the present and future quality of life in the Tug Hill Region. Do you have a few minutes to do a survey for us (or, "help us out")?

If NO . . . Might there be another adult in the home who might wish to participate or is there a more convenient time to call?

If YES . . . (First verify that the person is 18 years old.) Great, well, let's begin.

#### **IF ASKED:**

FAQ stuff is on the FAQ sheet...

#### **Are you a year-round or seasonal Tug Hill resident?**

- Year-round Tug Hill resident  Out-of-region resident (landowner in Tug Hill Region)

## Tug Hill Commission - Landowner Survey - 2019

### Quality of Life Ratings

First, we are interested in your impressions of the Tug Hill Region.

READ THIS: For the rest of the survey, when we mention the "Tug Hill Region" we are including the area of land north of Oneida Lake, west of the Adirondacks, and east of Lake Ontario.

I'm going to read you a list of terms that describe different aspects of life in the Tug Hill Region. Please tell us how you view each of these on a scale of EXCELLENT - GOOD - FAIR - or, POOR.

	Excellent	Good	Fair	Poor	Not Sure
Q1: Quality of K-12 education	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q2: Availability of higher education	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q3: Feeling of safety	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q4: Social activities and organizations (local entertainment, festivals, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q5: Recreational opportunities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q6: Health care (if asked: "availability")	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q7: Housing (if asked: "availability")	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q8: Services for senior citizens	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q9: Drinking water quality	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q10: Waste water and sewage disposal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q11: Internet access	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q12: Access to groceries, pharmacies, other necessities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q13: Local road maintenance/snow removal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q14: Amount of open space	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q15: Industrial and commercial development	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q16: Farming and forestry activity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q17: Level of tourism	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q18: Employment opportunities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q19: Local government services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q20: Condition of villages or hamlets (Main Street)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q21: Overall quality of life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Tug Hill Commission - Landowner Survey - 2019

### Your Community - How important are these activities/aspects?

**INTERVIEWER READ THIS:** Community improvement may result in an increased number of land use decisions facing town, village, county and state governments in the Tug Hill Region.

I'm going to read you a list of *characteristics* of the Tug Hill Region, and for each I'd like to know if it were up to you to decide, would you INCREASE – KEEP BUT NOT INCREASE – or DECREASE the following types of activities or aspects?

### The first few have to do with recreation...

INTERVIEWER: Be sure to remind the scale as much as needed.

	Increase	Keep, but not increase	Decrease	Not sure
Q22: Parks and playgrounds	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q23: Hunting/Fishing/Trapping	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q24: ATV riding	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q25: Snowmobiling	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q26: Cross country skiing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q27: Motorboating/jet skiing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q28: Canoeing/Kayaking	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q29: Hiking/walking/camping	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q30: Cultural activities (concerts, performances, festivals, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### The next few have to do with Infrastructure...

	Increase	Keep, but not increase	Decrease	Not sure
Q31: Public transportation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q32: Public water/sewer service	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q33: Paved roads	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q34: Internet access	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### The next few have to do with Energy...

	Increase	Keep, but not increase	Decrease	Not sure
Q35: Wind energy development	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q36: Solar energy development	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q37: Biomass energy crops (wood, corn, switchgrass, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q38: Power line construction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q39: Nuclear power development	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### The next few have to do with the Economy...

	Increase	Keep, but not increase	Decrease	Not sure
Q40: Forestry	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q41: Farming	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q42: Tourism/recreational development	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q43: Manufacturing/industrial development	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q44: Retail/commercial development	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### The next few have to do with Land Use...

	Increase	Keep, but not increase	Decrease	Not sure
Q45: Permanent residential development	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q46: Small acreage recreational camp subdivisions (less than 5 acres)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q47: Farm and working forest landscapes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q48: Protected open space	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

### The final few have to do with Government...

	Increase	Keep, but not increase	Decrease	Not sure
Q49: State/federal government regulations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q50: Local government regulations (includes zoning and land use laws)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Q51: Police, fire, and ambulance services	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Tug Hill Commission - Landowner Survey - 2019

### Demographics - A little about you ...

We're almost finished. These last few questions will help us get a better sense of the general nature of the people who have helped us with this important project.

\* **Age:** I am going to read you some age ranges. Please stop me when I get to the range in which your age falls.

18-34    
  35-64    
  65+

\* **Education:** I am going to read you a list of education levels. Please stop me when I get to the highest level at which you have completed formal education.

- High school graduate or less       1-3 years of college       4-year college degree or greater

**Income:** I am going to read you a list of income ranges. Please stop me when I get to the range in which your yearly household income falls.

- Less than \$10,000       \$10,000-\$50,000       \$51,000-\$100,000       More than \$100,000       Refused

**Town of the PROPERTY:**

**PERMANENT:** In what village or town in the Tug Hill Region do you reside?

**SEASONAL:** In what village or town in the Tug Hill Region is your property located?

**INTERVIEWER:** Do not enter Massachusetts, or California, or New Jersey, etc.)

Other (please specify)

\* **Sex:** If you don't mind me asking ... what is your gender?

- Male  Female

\* **Phone Type:** Are you speaking to me on a cell phone or a landline?

- Cell  Landline

\* **Phone Ownership:** Do you also own a \_\_\_\_\_?

- Own both a Cell and a LL       Cell-only       LL-only

**Comments?** Do you have any other comments regarding the future of the Tug Hill Region?

**Tug Hill Commission - Landowner Survey - 2019**

**Final Comments**

Thank you very much for helping us out this evening/afternoon. If you have any questions, please contact Ms. Katie

## Tug Hill Commission - Landowner Survey - 2019

### After You Hang Up - Book-keeping

You must complete the following five items.

**\* Zip Code of Participant (from Call Sheet)**

Other (please specify)

**\* State of Residence (from Call Sheet)**

Other (please specify)

**\* Town of Residence of Participant (from Call Sheet)**

Other (please specify)

**\* Phone Number of Participant (from Call Sheet, in format xxx-xxx-xxxx)**

**\* Interviewer (click on Your Name)**

**Any important observations or comments about this interview that Mr. LaLone, Mr. Danforth, or the folks from the Tug Hill Commission should know, enter here. (Complaints? Comments? Compliments? Interesting participants? Difficulties?)**