

# Overview of NECAP Public Polls on Climate Change Adaptation in Cranston

## Background

Prior to running New England Climate Adaptation Project (NECAP) role-play simulation workshops, project staff commissioned an independent firm to randomly poll 100 Cranston residents via landline. This poll (Poll 1), conducted in May 2013, established baseline opinions about climate change risk and adaptation in the city. Following the NECAP workshops, a second public poll (Poll 2) was conducted in May 2014 to see what, if anything, had shifted in residents' opinions about their city's climate risks, level of preparedness, and capacity to address potential impacts.<sup>1</sup> This report summarizes key findings from the two polls for local officials and other interested stakeholders in Cranston. These key findings are discussed individually in the sections that follow and a brief summary of all findings is provided in the conclusion.

## Demographics

Demographically, Poll 2 respondents were similar to Poll 1 respondents, with a few moderate shifts. Most notably, Poll 2 had a greater share of respondents who did not belong to any environmental organizations (90 percent) as compared to Poll 1 (67 percent). This is important to note, as people who are affiliated with environmental groups are more likely to be concerned about climate change than the general public, and people who are affiliated with local groups could very well be more aware of local climate change risks than the general public. No other differences between the two poll populations were statistically significant.

The gender breakdowns for both Poll 1 and Poll 2 were similar, with more female than male respondents. Since the distribution of age and gender in both Poll 1 and Poll 2 were slightly different than the population of Cranston at large, the poll data were weighted for age and gender to reflect a more demographically representative sample.

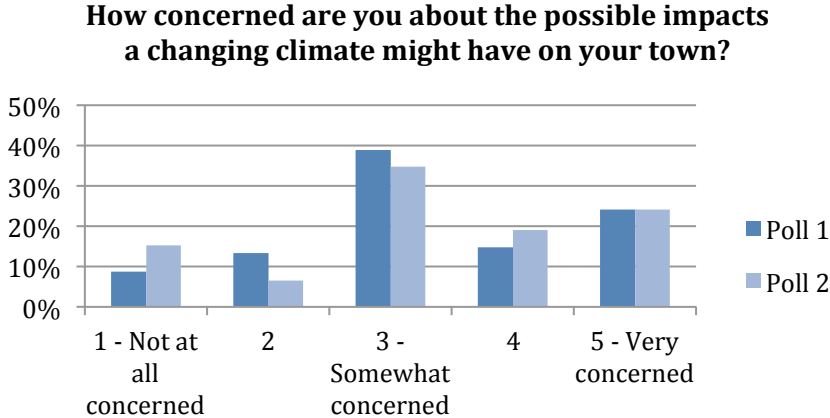
Only two percent of Poll 2 respondents stated that they attended a NECAP workshop over the past year, indicating very minor overlap between the Poll 2 population and the NECAP workshop population for Cranston. This small overlap was anticipated and wanted, since the intent of the poll was to gauge the public opinion of Cranston residents at large.

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<sup>1</sup> It will be indicated in this write-up where findings from the polls were statistically significant. If no indication is given, the finding from the poll was not statistically significant.

## High Levels of Climate Change Concern

Poll 1 and Poll 2 found consistently high levels of concern about the possible impacts of climate change on the City of Cranston, with 78 percent of respondents in both polls saying that they are somewhat to very concerned about local climate change impacts (Figure 1). Close to 25 percent in both polls indicated they are “very concerned.”



**Figure 1:** Comparison of Poll 1 and Poll 2 respondents' concern about potential local climate change impacts

Moreover, when asked in Poll 2 if their concern about local climate change impacts had shifted, nearly half of respondents (46 percent) indicated that their concern had increased during the past year, 53 percent reported no change in concern, and only 2 percent indicated that their concern had decreased over the past year. Of respondents reporting an increase in concern, the top reasons for their increase in concern included natural weather events, a news story, a state or national governmental action, and an educational workshop (Table 1). Eleven percent responded “other” to this question. The “other” reasons for an increase in climate change concern are unknown, as the polling process did not record open-ended answers.

What was the primary cause of this shift in your concern about the possible impacts climate change could have on your town?	Natural weather event	65%
	News story	11%
	State or national government action	8%
	Educational workshop or presentation	5%
	A personal or professional interaction	0%
	The National Climate Assessment or another scientific report	0%
	Local government action	0%
	School	0%
	Other	11%

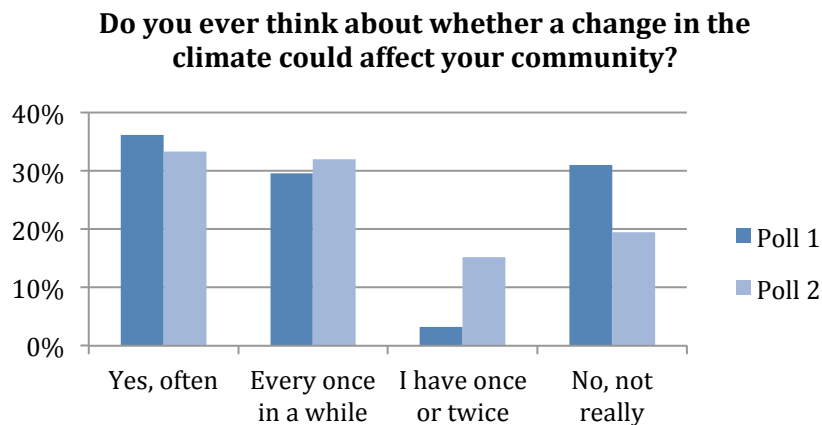
**Table 1:** Reasons behind increased concern about climate change risk among Poll 2 respondents

The Cranston respondents' level of concern about climate change (Figure 1) is inconsistent with the 46 percent of Poll 2 respondents who indicated that their level of concern had changed. Moreover, 65 percent of respondents attributed their increase in concern about climate change risks to natural weather events even though Cranston – and the Northeast in general – did not experience any major storms between Poll 1 and Poll 2. Cranston did, however, experience major flooding in 2010. In this light, Poll 2 respondents' reported an increase in level of concern, and their attribution of this increase to natural weather events, may be due to the lingering effects of the 2010 floods, or Hurricane Sandy, which hit the East Coast in 2013.

**Takeaway:** Poll 1 and Poll 2 respondents showed consistently high levels of concern about the potential local impacts of climate change. Almost half of Poll 2 respondents reported that their level of concern had increased in the past year and many attributed this increase to natural weather events. While these sentiments may be in response to the 2010 floods in Cranston or Hurricane Sandy, it is important to note that people are generally concerned about local climate change risks and that many associate their concern with recent weather events.

### Thinking about climate change more often

There was a statistically significant shift towards thinking about the possible impacts of climate change more frequently among Poll 2 respondents as compared to Poll 1 respondents (Figure 2).



**Figure 2:** Frequency of climate change consideration

This shift was largely due to a decrease in the percentage of respondents who reported not thinking about climate change (from 31 percent in Poll 1 down to 20 percent in Poll 2) and an increase in the percentage of respondents who indicated that they have thought about climate change risks once or twice (from 3 percent in Poll 1 up to 15 percent in Poll 2). This is significant in that it suggests that more Cranston residents who were previously unconcerned with the possible impacts of climate change are starting to at least consider the issue. The consistency in numbers of people who think about how climate change could

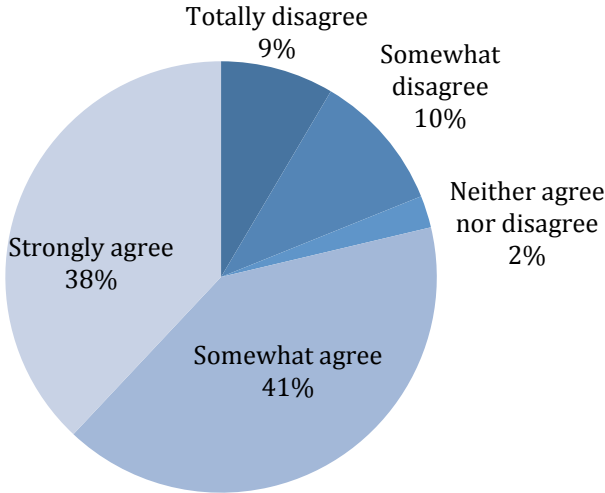
affect Cranston “often” or “every once in a while” is coherent with the above-discussed consistency in level of concern about local climate change risks.

**Takeaway:** More Poll 2 than Poll 1 respondents think about local climate change risks at least a little bit. Still, the number of people who think about local risks frequently has remained consistently high, with over 60 percent in both polls saying they think about how climate change could affect their community at least every once in a while.

### Support for making climate change preparedness a priority

Nearly four-fifths of Cranston Poll 2 respondents expressed support for their city making climate change preparation a priority over the next decade (Figure 3). When asked whether they agree with the statement “Preparing for climate change risks should be a priority for my town over the next decade” 38 percent said they strongly agree and 49 percent said they somewhat agree, indicating strong local support for local climate change adaptation.

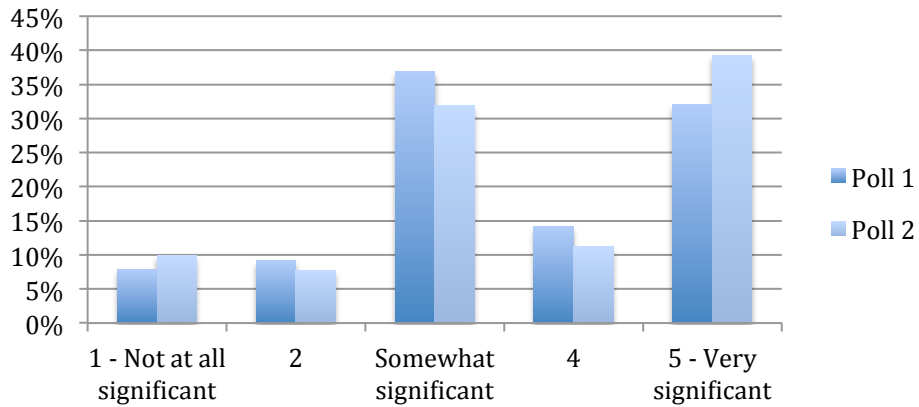
**To what extent do you agree with the following: Preparing for climate change risks should be a priority for my town over the next decade.**



**Figure 3:** Poll 2 Respondents’ attitudes on climate adaptation as a priority

Moreover, the majority of Cranston respondents in both polls think addressing climate change risk should be an important part of local planning over the next decade, with 83 percent in Poll 1 and 82 percent in Poll 2 saying it should be somewhat to very significant (Figure 4). This consistently high level of support for making climate change adaptation a significant part of town planning and decision-making directly reinforces the observed support for prioritizing climate change.

**How significant do you think addressing climate change risk should be in your town's planning and decision making over the next ten years?**



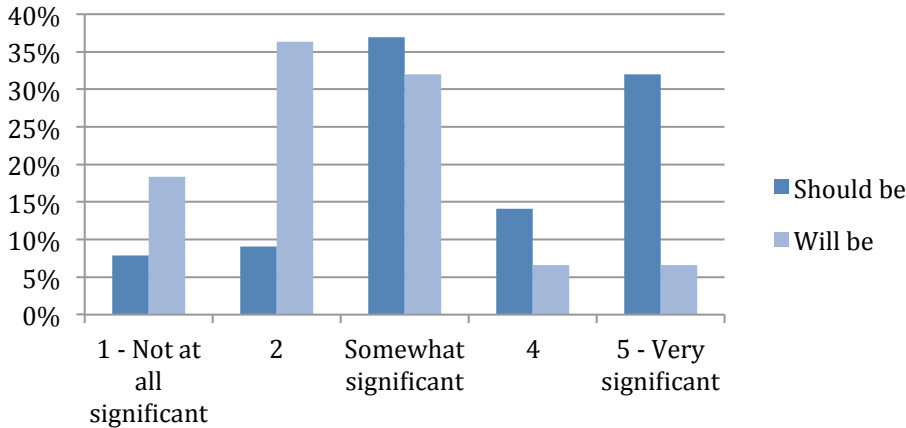
**Figure 4:** Comparison of Poll 1 and Poll 2 respondents' beliefs on how Significant climate change risk should be in town planning and decision

**Takeaway:** The large majority of Poll 2 respondents believe that, over the next decade, Cranston should make climate change preparation a priority. This is reinforced by the widely held belief that climate change adaptation should significant in local planning and decision-making.

**Confidence gap between how significant climate change adaptation should be and actually will be in town planning**

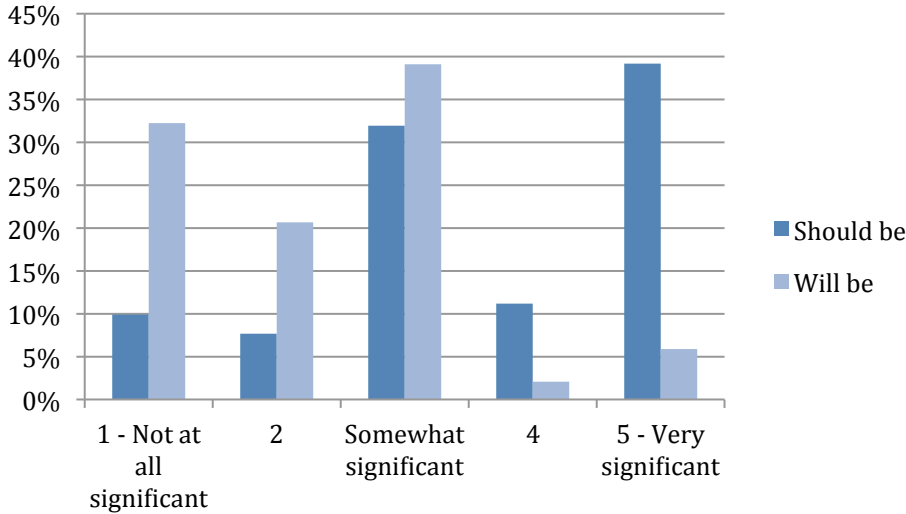
Both Poll 1 and Poll 2 show a confidence gap between the number of poll respondents who think that addressing climate change risk *should be* significant in their town's planning decisions over the next ten years, and those who think it *will be* significant (Figure 5 and Figure 6). As discussed above, the large majority of Cranston respondents in both polls think addressing climate change risk should be an important part of local planning over the next decade. However, when asked if they think it will actually be important, this number dropped to 45 percent for Poll 1 and 47 percent for Poll 2, with very few people thinking it will be very significant.

**Poll 1: How significant do you think addressing climate change risk should/will be in your town’s planning and decision making over the next ten years?**



**Figure 5:** Confidence gap among Poll 1 respondents

**Poll 2: How significant do you think addressing climate change risk should/will be in your town’s planning and decision making over the next ten years?**

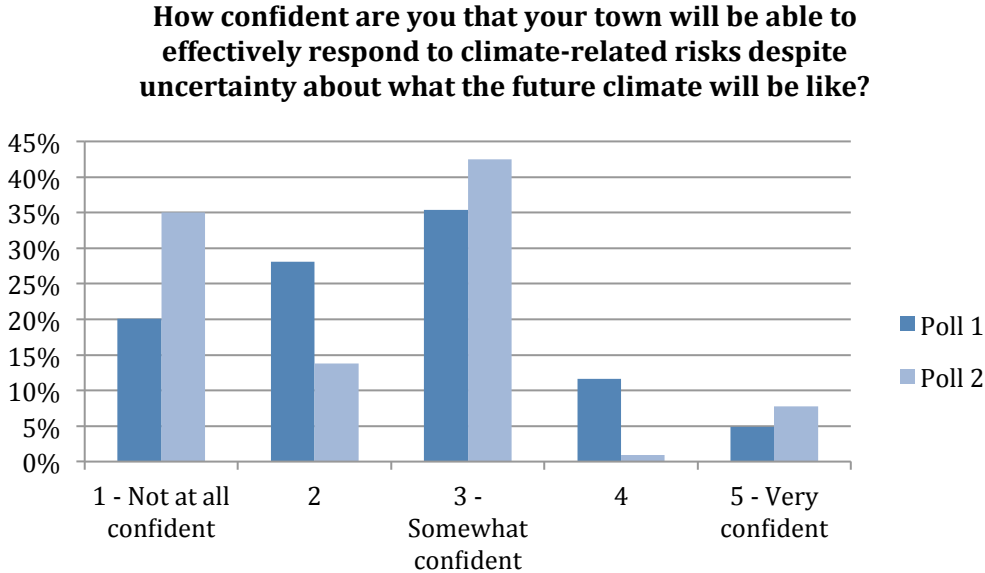


**Figure 6:** Confidence gap amount Poll 2 respondents

While this confidence gap was still present in Poll 2, there was an increase in the percentage of these respondents who think that addressing climate change risk should be very significant in their town’s planning decisions over the next ten years – up to 39 percent in Poll 2 from 32 percent in Poll 1. This shift within the larger trend suggests that Poll 2 respondents placed slightly more importance on planning for climate change, but were also pessimistic that the city will actually place this same high level of importance on the issue. The shift between Poll 1 respondents’ and Poll 2 respondents’ answers to “How

significant do you think addressing climate change risk will actually be?” was statistically significant, whereas the shift between answers to “How significant do you think addressing climate change risk should be?” was not.

The observed confidence gap was reinforced by the finding that when asked “How confident are you that your government will be able to effectively respond to climate-related risks despite uncertainty?” 48 percent of both Poll 1 and Poll 2 respondents said they had little to no confidence (Figure 7). An additional 35 percent of Poll 1 respondents and 43 percent of Poll 2 respondents said that they were “somewhat confident.” This increase in the percentage of Poll 2 respondents who selected “somewhat confident” corresponds to a decrease in the percentage of Poll 2 respondents who selected confident to very confident. Thus, confidence levels shifted somewhat towards lower confidence between Poll 1 and Poll 2.



**Figure 7:** Comparison of Poll 1 and Poll 2 respondents’ confidence in their city’s ability to respond to climate change risks.

Our data do not explain the exact reasons for these low levels of confidence, or the decrease between Poll 1 and Poll 2. The confidence gap could be reflective of a broader lack of confidence in local government, or it could be tied to respondents’ perceived barriers to local climate change preparedness, discussed in the section below. It is worth noting that survey and interview data from NECAP workshops in Cranston show that participation in the role-play simulation workshops helped increase Cranston participants’ support for and confidence in local action. This suggests role-play workshops offer one possible avenue for building confidence levels in Cranston.

**Takeaway:** While many people think that preparing for climate change should be important in Cranston’s planning over the next decade, they generally lack confidence in the city’s willingness and/or ability to prepare. This confidence gap has persisted, and

somewhat increased, from Poll 1 to Poll 2. Similarly, respondents in both Poll 1 and Poll 2 reported low levels of confidence in the local government’s ability to effectively respond to climate change risks.

**Main perceived barriers include lack of funding, political will, and technical capacity**

Poll 2 respondents were asked what barriers they think will prevent their community from taking action on climate change adaptation. They were given the options presented in Table 2. As indicated in the table, the most commonly chosen option was lack of funding (40 percent), followed by lack of political will (18 percent), and lack of technical know-how/capacity (10 percent). Importantly, only 5 percent of respondents in Poll 2 answered that Cranston was already prepared for climate change. Given these results, local leaders may want to be mindful of and address lack of funding, political will, and technical capacity in their efforts to prepare for climate change

		Poll 2
If the climate is changing, what is most likely to prevent your community from taking appropriate action?	Lack of funding or financial resources	40%
	Lack of political will	18%
	Lack of technical know-how/capacity	10%
	Lack of agreement about what to do about it	8%
	Uncertainty about what the future climate will be like	8%
	Lack of public support	5%
	Lack of scientific information	5%
	Nothing; my community is prepared	5%

**Table 2:** Barriers to climate change adaptation perceived by Poll 2 respondents

**Takeaway:** Poll 2 respondents identified lack of funding, political will, and technical capacity as the top three barriers preventing local climate change adaptation in Cranston.

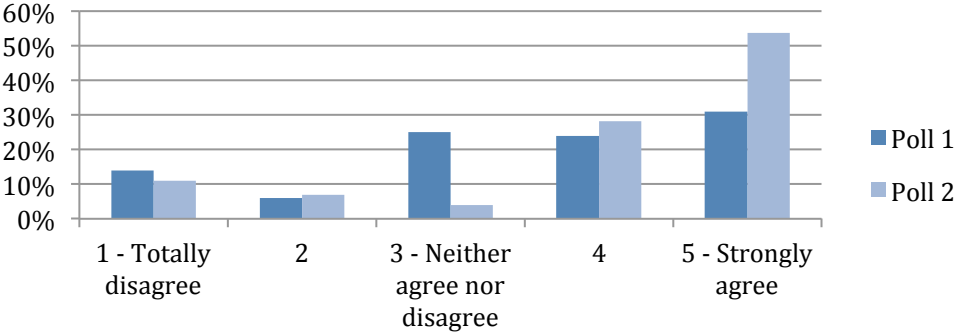
**A majority of Cranston residents support taking climate change projections into account in everyday decision-making**

When asked “To what extent do you agree with the following: When making decisions today, decision-makers in my town should take into account scientific projections about what the climate might be like in 50 years,” 79 percent of Poll 2 respondents said they agree or strongly agree, with over 50 percent saying they strongly agree. In contrast, 55 percent of Poll 1 respondents agreed or strongly agreed with this statement, with 31 percent strongly agreeing. Less than 20 percent of respondents in both polls expressed some level of disagreement with this statement. However, a sizeable portion of Poll 1 respondents (25 percent) said they neither agreed nor disagreed with this statement, indicating that many people were ambivalent (Figure 8). The Poll 2 findings suggest that



more people feel more strongly that Cranston should take climate change projections into account in its everyday planning. This shift was statistically significant.

**To what extent do you agree with the following: When making decisions today, decision-makers in my town should take into account scientific projections about what the climate might be like in 50 years.**



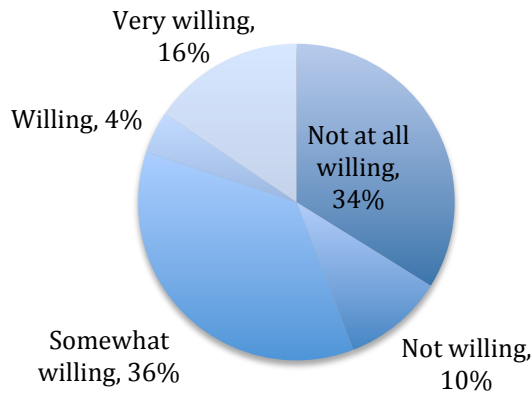
**Figure 8:** Comparison of Poll 1 and Poll 2 respondents’ beliefs regarding the integration of scientific climate projections into current decision-making

**Takeaway:** Support for incorporating scientific climate projections into today’s decisions was relatively high in both Poll 1 and Poll 2, with a significant increase in support among Poll 2 respondents.

### Some willingness to pay for adaptation amongst Cranston residents

Poll 2 included a question about people’s willingness to pay slightly higher taxes so that Cranston can prepare for climate change risks. Slightly over half of respondents (55 percent) indicated that they were somewhat to very willing to pay slightly higher taxes for climate change preparation (Figure 9).

**How willing would you be to pay slightly higher taxes so that your town can prepare for climate change risks?**



**Figure 9:** Poll 2 respondents’ willingness to pay higher taxes to fund city climate change adaptation

When asked what would increase willingness to pay more in taxes, top responses from Poll 2 respondents included: an increased confidence in the town’s ability to effectively manage climate change risks (31 percent) and the integration of climate change preparations in everyday decision making (13 percent) (Table 4). Of note, 9 percent of respondents said they were already willing to pay more in taxes for climate change adaptation and 35 percent said that no changes would make them want to pay more in taxes for this purpose, which reinforces that approximately one third of respondents are resolutely unwilling to pay more in taxes for this purpose. Overall, these responses indicate that, while people see lack of funding as a barrier to adaptation, many are also currently or potentially willing to pay slightly more in taxes for adaptation purposes. Willingness to pay, however, seems to be tied to a need for greater confidence that the local government can effectively manage climate change impacts. Given the observed low levels of confidence in local government (Figure 7), these responses underscore the importance of building confidence in Cranston.

I do not want to pay more taxes for this purpose	35%
If I was more confident in my town’s ability to effectively manage climate change risks	31%
If my town decision-makers included climate change preparation in everyday planning decisions	13%
I am already willing to pay slightly higher taxes for this purpose	9%
If my town got hit by another storm or a major disaster	5%
If my voice was represented in my town’s decision-making about how to prepare	5%
If I started seeing the impacts of climate change	3%
Other	1%

**Table 4:** Factors that would increase Poll 2 respondents’ willingness to pay more in taxes for local climate change adaptation

**Takeaway:** There is a good amount of willingness to pay more in taxes to fund climate change adaptation in Cranston. However, this willingness to pay appears to be tied to a need for increased confidence in the local government’s ability to effectively manage climate change risks. Of note, more than a third of Poll 2 respondents indicated they are not at all willing to pay more taxes to fund adaptation efforts.

**Flooding, sea level rise, and ecosystem impacts seen as most significant impacts**

When asked “What do you think the most significant impacts of a change in the climate might be in your community?” the three most common responses from Poll 2 respondents were increased flooding (30 percent), sea level rise (21 percent), and ecosystem impacts (15 percent) (Table 3). The fact that increased flooding was the most common response reinforces the impact that the 2010 floods had on the Cranston community. Only 14 percent of respondents felt there would be no significant impact on Cranston from climate change. Poll 1 respondents gave similar responses.

Poll 2: What do you think the most significant impacts of a change in the climate might be for your community?	Increased flooding	30%
	Sea level rise	21%
	Ecosystem impacts	15%
	More severe storms	14%
	More heat waves	4%
	Drought	2%
	Infrastructure impacts	1%
	There will be no significant impact	14%

**Table 3:** The most significant possible impacts of climate change as perceived by Poll 2 respondents.

**Takeaway:** Poll 2 respondents believe that increased flooding, sea level rise, and ecosystem impacts will be the three most significant possible impacts of climate change in Cranston.

**The national government, then individuals seen as being most responsible for adaptation**

When asked who should be responsible for preparing for the impacts a changing climate might have on Cranston, the most common answer in both Poll 1 and Poll 2 was the national government (Table 5). The second most common answer in both polls was individuals. The percentage of respondents selecting these same two top answers increased in Poll 2, as compared to Poll 1, indicating a persistent perception in Cranston that the national government and individuals should be responsible for climate change. Interestingly, much of the growth in these perceptions may be attributed to the notable

decrease in the percentage of Poll 2 respondents selecting “Other” (0 percent) as compared to Poll 1 respondents (18 percent) as well as the decrease in the percentage of Poll 2 respondents selecting the state government (4 percent) as compared to Poll 1 respondents (15 percent). Only 12 percent of Poll 1 and Poll 2 respondents chose city government as primarily responsible.

		Poll 1	Poll 2
If the climate is changing, who do you think should be responsible for preparing for the possible impacts this might have on your community? [First response shown below]	The national government	34%	47%
	Individuals	17%	31%
	The city government	12%	12%
	The state government	15%	4%
	Businesses	4%	4%
	Neighborhoods	0%	1%
	All of the above (Poll 2 only)	N/A	0%
	Other	18%	0%

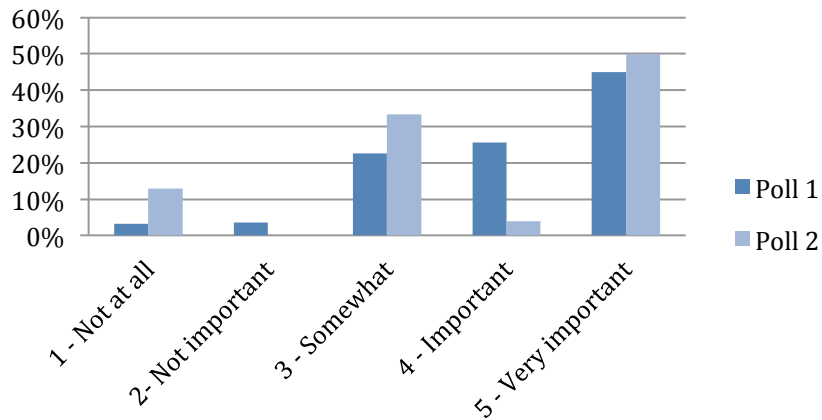
**Table 5:** Comparison of Poll 1 and Poll 2 respondents’ beliefs regarding who should be responsible for local climate change adaptation

**Takeaway:** Both Poll 1 and Poll 2 respondents saw the national government and then individuals as being primarily responsible for preparing the city for the impacts of climate change. Only 12 percent of respondents in both polls indicated that the city government is primarily responsible. This finding is problematic in light of the fact that, while national and state efforts may be necessary, adaptation will primarily occur at the local planning level. This finding suggests a need to raise local awareness of the importance of city government in adaptation and climate risk management.

**Importance of stakeholder involvement**

Support for stakeholder involvement in deciding how Cranston should respond to climate change risks was very high in both Poll 1 and Poll 2. When asked “How important is it that residents, local groups, and businesses be involved in deciding how to respond to climate change risks?” almost half of the respondents in both polls said “very important.” The number of respondents selecting “important,” however, decreased from 26 percent in Poll 1 to four percent in Poll 2. While this implies that Poll 2 respondents placed slightly less importance on stakeholder involvement in climate change risk management decisions than Poll 1 respondents, more than 80 percent in both polls said stakeholder involvement should be somewhat to very significant (Figure 10).

**How important is it that residents, local groups, and businesses be involved in deciding how to respond to climate change risks?**



**Figure 10:** Perceived importance of stakeholder involvement by Poll 1 versus Poll 2 respondents

**Takeaway:** The importance of stakeholder involvement received consistently strong support from Cranston respondents in both Poll 1 and Poll 2.

## Conclusion

The findings of these two public polls in Cranston provide valuable information on residents' opinions about climate change risks and adaptation. The changes between Poll 1 and Poll 2 also give a sense of what sentiments may have shifted between May 2013 and May 2014.

The findings from both polls show a consistently high level of public concern about climate change risks to Cranston, with about four-fifths of respondents in both polls indicating concern. Interestingly, Poll 2 also found that 46 percent of respondents had their concern increase over the past year, with natural weather events being the most cited reason for this increase in concern.

In line with this high level of concern, Poll 2 respondents in Cranston indicated that they are thinking more often about the possible impacts of climate change. There was also widespread support among Poll 2 respondents for making climate change preparation a priority over the next decade and making climate change adaptation a significant part of town planning and decision-making.

Both polls, however, show a confidence gap between those who think that local adaptation planning should be significant in the coming decade as compared to those who believe it actually will be significant. Low levels of confidence in the local government's ability to effectively manage climate change risks reinforced the confidence gap.

Poll 2 respondents cited lack of funding, political will, and technical capacity as the predominant barriers to effective local adaptation. Lack of scientific information was not identified as a main barrier and, correspondingly, respondents in both polls supported the integration of scientific climate projections into today's decision making. This support for the use of scientific information only increased from Poll 1 to Poll 2.

While Cranston residents see lack of funding as a barrier to adaptation, they are willing or potentially willing to pay slightly more in taxes for adaptation purposes. Willingness to pay, however, seems to be tied to a need for more confidence that local government can effectively manage climate change impacts. Given the observed low levels of confidence among Cranston respondents, these responses highlight the need to build confidence levels in Cranston.

Increased flooding, sea level rise, and more ecosystem impacts were the top concerns about local level climate impacts among Poll 2 Cranston respondents. Only 14 percent of respondents in Poll 2 felt there would be no significant impact on Cranston from climate change.

One of the clearest takeaways from this data is that most people in both polls indicated that they think it is important to engage stakeholders, such as local businesses and residents, in making decisions about how to respond to climate change risks. Cranston has an important challenge ahead in figuring out how to do this. We are optimistic that effectively doing so will raise awareness of the important role that the city must play in responding to climate change risks, as well as build widespread buy-in for and win financial support for adaptation efforts.