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| File: | mem_swisher_20200608_pestle.docx | Date: | June 8, 2020 |

Reference: PESTLE Analysis Results

Results from the PESTLE Workshop conducted May 21, 2020 with representatives of the City and members of the consultant team have been compiled and are presented in this memorandum. We plan to use these results as input to our discussion of the program risk register on June 10, 2020 and will include highlights in the materials used in our workshop with the Joliet City Council on June 23, 2020.

Final Risk Statements

Results from the small group discussions conducted as part of the PESTLE Analysis were compiled to create a total of thirty risk statements. These statements are listed in Tables 1 - 6. These statements were then transmitted back to all of the workshop participants for ranking. Participants were asked to identify and rank their top ten risk statements using an online survey tool.

Risk Statement Rankings

A total of 16 of the 18 workshop participants completed the ranking survey for the PESTLE analysis. Results from the rankings are presented in tabular format in Table 7 and using a range of graphical displays provided as Figures 1 through 5.

An overall scoring of the survey results was generated by multiplying the number of times each risk statement was ranked among the top ten program risks times a risk value starting at 10 and decreasing to 1. For example, each time a risk statement was ranked as the highest risk by a participant, that statement received 10 points. Each time a risk statement was ranked as the second highest risk, it received 9 points, and so on with votes for a risk statement as the tenth highest risk yielding one point each. Risks statements ranked below the top ten, received zero points. Under this approach, the maximum number of points any risk statement could achieve would be 160 (16 participants times 10 points). Calculated scores for all 30 of the PESTLE risk statements are summarized in Table 7.

As shown in the table, the PESTLE analysis risk statement with the highest score (85 points) was the risk that political turnover during the life of the project could affect support and the momentum of the project. This risk was also included in participants' top 5 (9 times out of 16) and top 10 (14 times out of 16), more times than any other risk statement.

The second and third highest scoring risk statements related to potential delays and increases in project costs associated with challenges achieving agreement with potential source supply or access partners (Score = 75 points), and concerns that project costs could delay the project beyond the 2030 date when Joliet needs to have the new system in place (Score = 73 points), respectively.

It should be noted that the third highest ranking risk statement (related to project costs) was the only statement to be ranked as the top risk to the program by more than two participants. A total of four participants ranked this risk as being their number one pick.

Figure 1 shows the ranking of all 30 risk statements based on their overall score.

Reference: PESTLE Analysis Results

Figure 2 shows the risk statements in the same rank order but provides additional visibility into the voting that produced the overall scores. Darker segments of each bar represent participant votes that placed a given statement near the top of the risk ranking. Lighter segments indicate votes in a participant's top ten but farther down the scale in terms of importance. Open sections of each bar indicate the number of times a given statement was not included in a participant's top ten list.

Figure 3 illustrates the number of times that risk statements were ranked at the top of a participant's risk list, while Figures 4 and 5 show the number of times that individual risk statements were ranked in a participant's top five (Figure 4) or top ten (Figure 5).

Observations

The fact that only one risk statement received more than two votes as the highest-ranking risk to the Alternative Water Source Program indicates a high degree of diversity in the views of the PESTLE workshop participants. However, when the ten risk statements ranked highest among the thirty evaluated are considered trends are evident.

- The highest ranking and fifth highest ranking risk statements both reflect concern that non-technical factors could lead to an erosion of support for the program. The Program Team will need to formulate a strategy for continuous and effective engagement of elected officials and presentation of high value, reliable information to these officials and the public so as to develop and sustain strong support.
- The second, eighth, ninth and tenth highest ranking risk statements all reflect concerns related to Joliet's need for external cooperation, support, and approvals to successfully implement the Alternative Water Source Program. The presence of multiple risk statements with this common element among the ten highest ranking concerns highlights the broad understanding that Joliet must work successfully with external entities to make the program successful, and the importance of early, frequent, and focused interactions with external partners, regulators, and stakeholders.
- The third and fourth highest ranking risk statements both include concerns related to project costs. In combination, these two risk statements were ranked by participants as the top risk to the program six times, and both were included in participants' top ten lists a total of ten times. Not surprisingly, program costs are a major source of concern and will need to be monitored, updated, and clearly communicated to decision-makers, rate payers, and other stakeholders at key points during the life of the program.
- Concerns related to the potential impact of delays in gaining commitments from regional partners or delays resulting from technical issues that arise during the planning and design of the project round out the themes represented among the ten highest ranking risk statements from the PESTLE workshop.

Output from this analysis will be used to refine and update the risk register for the Alternative Source Water Program and drive the development of specific risk response strategies.

Reference: PESTLE Analysis Results

Table 1 - Joliet AWSP PESTLE Analysis Risk Statements - Political

| | |
|------------------|---|
| Political | There is a risk associated with not obtaining favorable, timely results due to inability to come to agreement with potential supplier or access provider. |
| Political | Due to the time required for implementation of project, there is a risk of political turnover (internal or external) that could affect political support and slow the momentum of the project. |
| Political | Multiple interest and approval authorities have the ability to impact the momentum of the project by refusing to allow use right-of-way, demanding fees, delaying permit approvals, challenging Illinois' right to Lake Michigan water. |
| Political | There is a risk that regional partners may not be willing/able to commit to a decision that meets Joliet's timeline, impacting either the momentum or cost of the project for Joliet. |
| Political | If Joliet is not able to maintain constituent support, momentum for project (funding, political support) would be impacted. |
| Political | If Chicago is selected, the reputation/history of Chicago related to increasing costs and overall control may affect political and constituent support. |

Reference: PESTLE Analysis Results

Table 2 - Joliet AWSP PESTLE Analysis Risk Statements - Economic

| | |
|-----------------|---|
| Economic | If project costs are perceived to be unacceptably high and action is delayed, Joliet will likely not be able to meet maximum day water needs by 2030 or support growth beyond that time. |
| Economic | Escalation in project costs could result in higher than anticipated water rate impacts that could affect affordability for residents as well as City growth, bonding capacity, and ability to fund other needs. |
| Economic | If a Chicago supply is selected, and particularly if the Chicago Water System were sold to a private entity, Joliet will have limited to no control over future water rates and future rates could become unaffordable for residents and/or businesses. |
| Economic | If anticipated sources of low interest funding or grants do not materialize, project costs and required future rate changes will increase. |
| Economic | The Alternative Water Source Program is so big and costly that it will limit Joliet's ability to finance other needed water and sewer improvements. |

Reference: PESTLE Analysis Results

Table 3 - Joliet AWSP PESTLE Analysis Risk Statements - Social

| | |
|---------------|---|
| Social | A lack of support from elected officials and/or business leaders leads to a loss of public trust that results in a loss of support for the project. |
| Social | There is a risk that misinformation or poor communication strategy fails to address the diverse needs of groups within the Joliet community and erodes public support for the project. |
| Social | Differences in the ability of various groups in Joliet to afford water rate increases and the real cost of the project could lead to division within the community and difficulty reaching consensus on critical decisions. |
| Social | Public support for the project can be eroded if plans for addressing disruption/impacts during construction (noise, dust, traffic, safety, property acquisition), impacts to operations (disruptions to service), and issues associated with drinking water quality (taste, odor, lead) are not defined, communicated, implemented. |

Reference: PESTLE Analysis Results

Table 4 - Joliet AWSP PESTLE Analysis Risk Statements - Technical

| | |
|-------------|--|
| Tech | Given the scope of the project, complex technical issues that arise during planning and design may require greater than anticipated time and/or effort to address, potentially delaying completion of plans or permitting for elements of the project. |
| Tech | Uncertainty around technical elements of the project such as potential increases in water demands beyond 2050, the success of efforts focused on achieving reductions in non-revenue water, and the true costs associated with long-term operation and maintenance of new water supply infrastructure may result in changes in the final cost of the project to customers. |
| Tech | As discussions with regional partners progress the total water demand to be supplied by Joliet and the geographic distribution of that demand may change, requiring changes to the layout and sizing of infrastructure elements and updates to the total cost of water associated with the alternatives. |
| Tech | Detailed considerations that cannot all be anticipated/included in the 2020 transmission main routing analysis may significantly affect the actual time and money required to construct the improvement. |
| Tech | Variability in source water quality, conditions within the existing Joliet water distribution system, or water quality regulations may require changes to be made to the proposed water treatment and water source transfer plans to reliably achieve the required/desired level of water quality for Joliet water customers. |
| Tech | Responsibilities and costs associated with the operation and maintenance of major new water supply infrastructure (near and distant from Joliet) may exceed current expectations and require additional investment of local funds into the water system. |

Reference: PESTLE Analysis Results

Table 5 - Joliet AWSP PESTLE Analysis Risk Statements - Legal/Legislative

| | |
|--------------|---|
| Legal | There is a risk that other states, municipalities, or residents may oppose the project due to their individual concerns, resulting in the need for Joliet to spend more time, effort, and money to advance the project or change its proposed supply location. |
| Legal | There is a risk of lack of cooperation by potential water source partners due to different regional interests that could potentially impact the time required to craft an acceptable water supply agreement, delaying the project and increasing project costs. |
| Legal | There is a risk that the preferred transmission main alignment may have to be revised due to local resistance or land acquisition/permitting issues thereby increasing project costs and delays. |
| Legal | There is a risk that an acceptable regional governance structure isn't established in time to avoid difficulties negotiating control and potential legislative requirements and require that Joliet proceed with the project without regional partners. |

Reference: PESTLE Analysis Results

Table 6 - Joliet AWSP PESTLE Analysis Risk Statements - Environmental

| | |
|------------|---|
| Env | There is a risk that Joliet may not be able to secure the necessary permits for construction of project elements due to sensitive environmental issues, substantially delaying the project and increasing costs. |
| Env | There is a risk that Joliet might not be able to secure a Lake Michigan allocation due to resistance from external stakeholders or an inability to meet IDNR permit requirements, which would put the project in jeopardy. |
| Env | There is a risk of encountering contaminated material during construction, which would delay the project and increase the cost. |
| Env | There is a risk that environmental advocacy groups will oppose the project, which could delay it and create a public relations challenge. |
| Env | There is a risk that Lake Michigan water from the south end of the lake may be difficult to treat and/or could negatively affect the City's water distribution system, creating aesthetic issues (including taste) or public health concerns. |

Table 7
PESTLE Analysis Results
Joliet Alternative Water Source Program

| Risk Statement | Top 10 Only - Score | Top 10 Only - Average | How Many Times 1 | How Many Times Top 5 | How Many Times Top 10 |
|---|---------------------|-----------------------|------------------|----------------------|-----------------------|
| Due to the time required for implementation of the project, there is a risk of political turnover (internal or external) that could affect political support and slow the momentum of the project. | 85 | 6.07 | 0 | 9 | 14 |
| There is a risk of lack of cooperation by potential water source partners due to different regional interests that could potentially impact the time required to craft an acceptable water supply agreement, delaying the project and increasing project costs. | 75 | 5.77 | 0 | 8 | 13 |
| If project costs are perceived to be unacceptably high and action is delayed, Joliet will likely not be able to meet maximum day water needs by 2030 or support growth beyond that time. | 73 | 7.30 | 4 | 7 | 10 |
| Escalation in project costs could result in higher than anticipated water rate impacts that could affect affordability for residents as well as City growth, bonding capacity, and ability to fund other needs. | 69 | 6.90 | 2 | 8 | 10 |
| There is a risk that misinformation or poor communication strategy fails to address the diverse needs of groups within the Joliet community and erodes public support for the project. | 61 | 6.10 | 1 | 6 | 10 |
| There is a risk that regional partners may not be willing/able to commit to a decision that meets Joliet's timeline, impacting either the momentum or cost of the project for Joliet. | 52 | 5.78 | 1 | 5 | 9 |
| Given the scope of the project, complex technical issues that arise during planning and design may require greater than anticipated time and/or effort to address, potentially delaying completion of plans or permitting for elements of the project. | 47 | 5.88 | 0 | 4 | 8 |
| Multiple interest and approval authorities have the ability to impact the momentum of the project by refusing to allow use right-of-way, demanding fees, delaying permit approvals, challenging Illinois' right to Lake Michigan water. | 39 | 5.57 | 1 | 3 | 7 |
| There is a risk that other states, municipalities, or residents may oppose the project due to their individual concerns, resulting in the need for Joliet to spend more time, effort, and money to advance the project or change its proposed supply location. | 38 | 5.43 | 0 | 4 | 7 |
| There is a risk that Joliet might not be able to secure a Lake Michigan allocation due to resistance from external stakeholders or an inability to meet IDNR permit requirements, which would put the project in jeopardy. | 31 | 7.75 | 1 | 3 | 4 |

Table 7
PESTLE Analysis Results
Joliet Alternative Water Source Program

| Risk Statement | Top 10 Only - Score | Top 10 Only - Average | How Many Times 1 | How Many Times Top 5 | How Many Times Top 10 |
|--|---------------------|-----------------------|------------------|----------------------|-----------------------|
| If Joliet is not able to maintain constituent support, momentum for project (funding, political support) would be impacted. | 30 | 5.00 | 0 | 2 | 6 |
| There is a risk that environmental advocacy groups will oppose the project, which could delay it and create a public relations challenge. | 29 | 4.83 | 1 | 2 | 6 |
| Responsibilities and costs associated with the operation and maintenance of major new water supply infrastructure (near and distant from Joliet) may exceed current expectations and require additional investment of local funds into the water system. | 27 | 4.50 | 0 | 3 | 6 |
| If a Chicago supply is selected, and particularly if the Chicago Water System were sold to a private entity, Joliet will have limited to no control over future water rates and future rates could become unaffordable for residents and/or businesses. | 24 | 4.80 | 0 | 2 | 5 |
| Differences in the ability of various groups in Joliet to afford water rate increases and the real cost of the project could lead to division within the community and difficulty reaching consensus on critical decisions. | 21 | 5.25 | 1 | 2 | 4 |
| There is a risk that the preferred transmission main alignment may have to be revised due to local resistance or land acquisition/permitting issues thereby increasing project costs and delays. | 21 | 5.25 | 1 | 2 | 4 |
| There is a risk that an acceptable regional governance structure isn't established in time to avoid difficulties negotiating control and potential legislative requirements and require that Joliet proceed with the project without regional partners. | 20 | 3.33 | 0 | 1 | 6 |
| There is a risk that Lake Michigan water from the south end of the lake may be difficult to treat and/or could negatively affect the City's water distribution system, creating aesthetic issues (including taste) or public health concerns. | 19 | 4.75 | 1 | 1 | 4 |
| As discussions with regional partners progress the total water demand to be supplied by Joliet and the geographic distribution of that demand may change, requiring changes to the layout and sizing of infrastructure elements and updates to the total cost of water associated with the alternatives. | 17 | 3.40 | 0 | 1 | 5 |
| Uncertainty around technical elements of the project such as potential increases in water demands beyond 2050, the success of efforts focused on achieving reductions in non-revenue water, and the true costs associated with long-term operation and maintenance of new water supply infrastructure may result in changes in the final cost of the project to customers. | 16 | 5.33 | 0 | 2 | 3 |

Table 7
PESTLE Analysis Results
Joliet Alternative Water Source Program

| Risk Statement | Top 10 Only - Score | Top 10 Only - Average | How Many Times 1 | How Many Times Top 5 | How Many Times Top 10 |
|---|---------------------|-----------------------|------------------|----------------------|-----------------------|
| A lack of support from elected officials and/or business leaders leads to a loss of public trust that results in a loss of support for the project. | 15 | 5.00 | 0 | 1 | 3 |
| There is a risk associated with not obtaining favorable, timely results due to inability to come to agreement with potential supplier or access provider. | 14 | 7.00 | 0 | 1 | 2 |
| Variability in source water quality, conditions within the existing Joliet water distribution system, or water quality regulations may require changes to be made to the proposed water treatment and water source transfer plans to reliably achieve the required/desired level of water quality for Joliet water customers. | 13 | 6.50 | 1 | 1 | 2 |
| Public support for the project can be eroded if plans for addressing disruption/impacts during construction (noise, dust, traffic, safety, property acquisition), impacts to operations (disruptions to service), and issues associated with drinking water quality (taste, odor, lead) are not defined, communicated, and implemented. | 12 | 6.00 | 0 | 1 | 2 |
| If Chicago is selected, the reputation/history of Chicago related to increasing costs and overall control may affect political and constituent support. | 11 | 5.50 | 1 | 1 | 2 |
| The Alternative Water Source Program is so big and costly that it will limit Joliet's ability to finance other needed water and sewer improvements. | 8 | 2.67 | 0 | 0 | 3 |
| If anticipated sources of low interest funding or grants do not materialize, project costs and required future rate changes will increase. | 6 | 3.00 | 0 | 0 | 2 |
| There is a risk that Joliet may not be able to secure the necessary permits for construction of project elements due to sensitive environmental issues, substantially delaying the project and increasing costs. | 5 | 5.00 | 0 | 0 | 1 |
| There is a risk of encountering contaminated material during construction, which would delay the project and increase the cost. | 1 | 1.00 | 0 | 0 | 1 |
| Detailed considerations that cannot all be anticipated/included in the 2020 transmission main routing analysis may significantly affect the actual time and money required to construct the improvement. | 1 | 1.00 | 0 | 0 | 1 |

Overall Score Calculated from Statement Rankings (Maximum Possible = 160)

Figure 1



PESTLE Results - Ranking by Overall Score

Figure 2

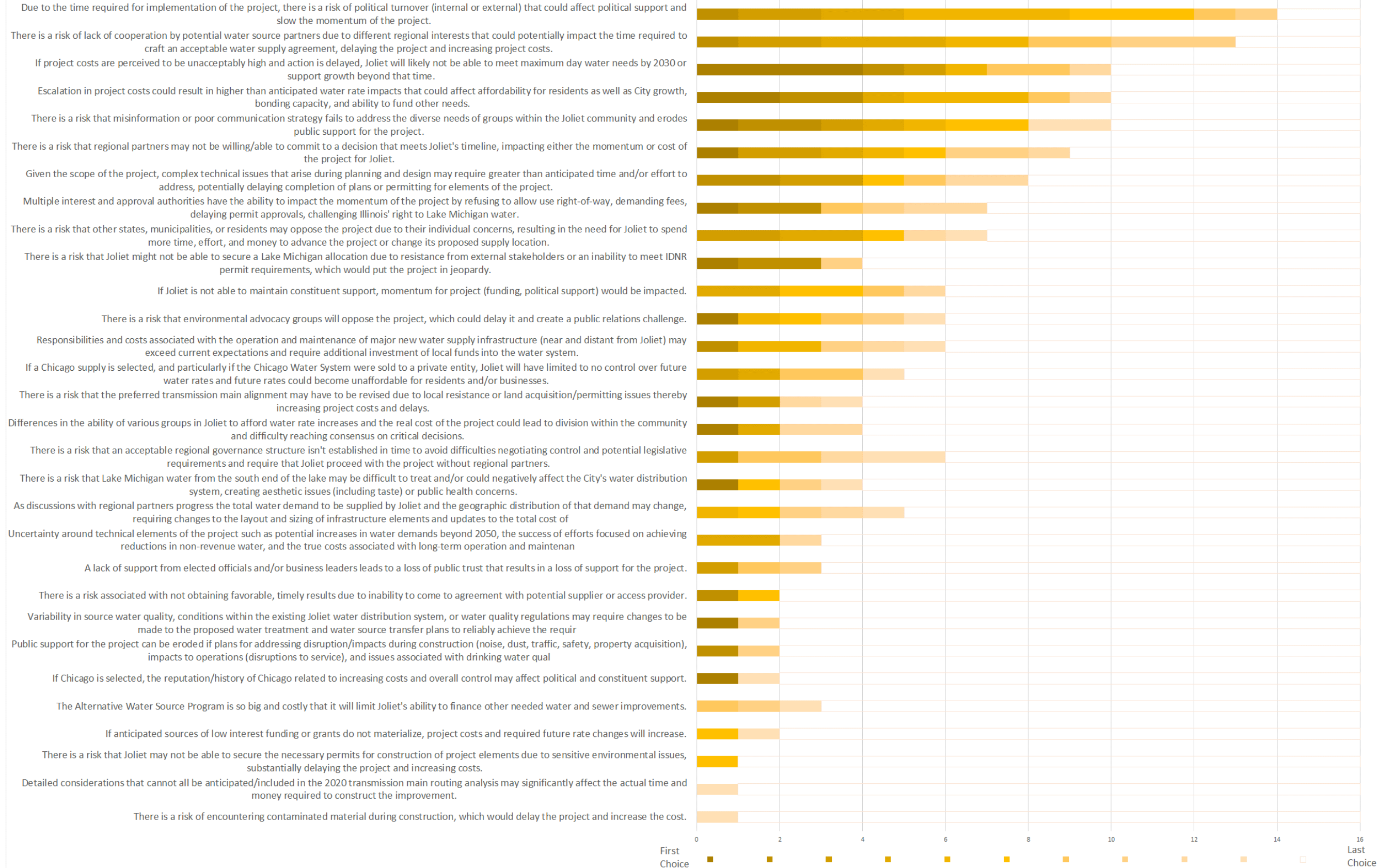


Figure 3

Statements that Received a Ranking of #1

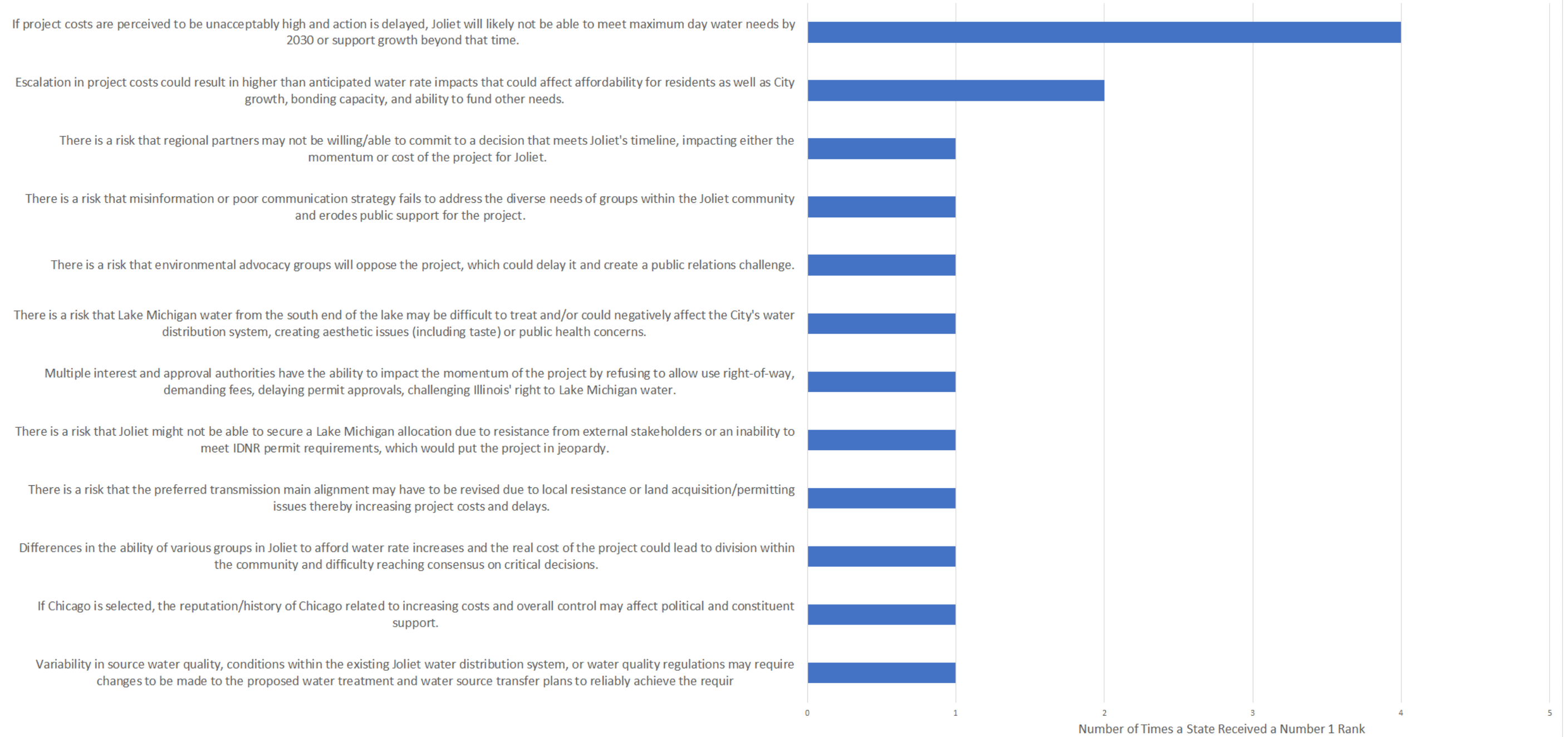


Figure 4

Statements Ranked as one of the Top 5 Risks

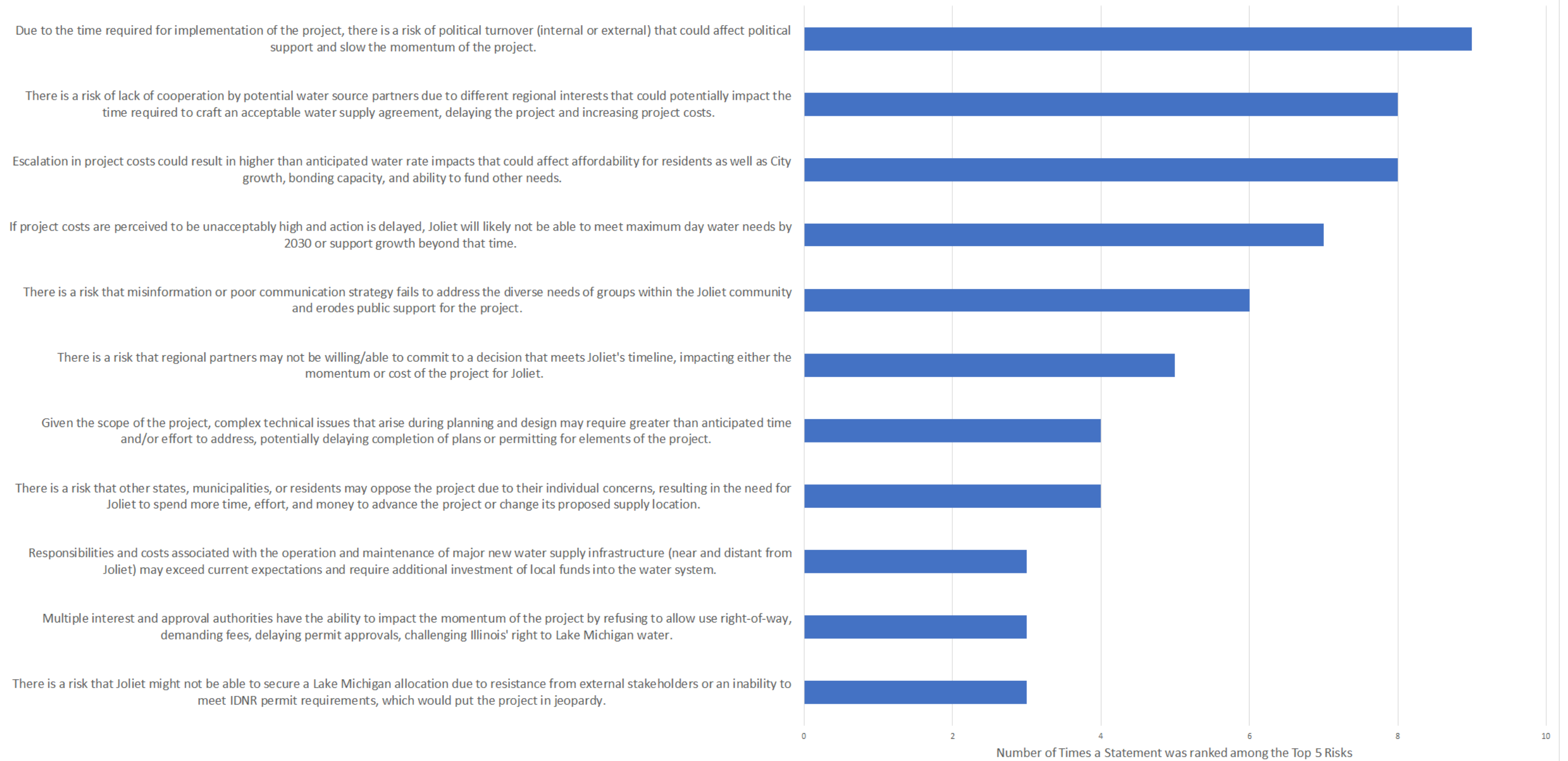


Figure 5

Statements Ranked as one of the Top 10 Risks

