

Survey Findings

ODOT-Ruhlin

72% Response Rate (13 of 18)

Best Outcome:

- To construct a good quality project on time, on budget, with no safety incidents
- The project is completed on schedule, on budget, with no injuries, and ODOT and Cambridge are happy with the finished product.
- The project has no lost time injuries, completes on time, the project teams (ODOT and Ruhlin) solve problems at the project level, and the public is kept informed and has minimal adverse impact.
- The best possible outcome is a safe, on time, and on budget project. My hope is that at the end of the project, all stakeholders have something to be proud of and the City of Cambridge has a tangible source of pride and conversation.
- Have no injuries, preserve assets, be efficient, value employees, show stewardship (partnering). Finish on time, to spec, on budget.
- A replacement bridge which earns a general appraisal of 9 is constructed within the timeframe outlined in the contract. All other associated work related to the bridge replacement project is completed as described in the contract.
- The best possible outcome would be for a successful project that is delivered on time or ahead of schedule and is a product that the owner is very pleased with.
- In all honesty, minimal demand/need for my involvement from a DCE perspective. If my involvement is limited to updates/general check-in. This would mean that information is being properly communicated between the DBT, ODOT staff, railroad, design, Locals, etc. This would also mean that issues are being discussed and resolved quickly and at the project level.
- For the project to finish on time and on budget while maintaining a healthy relationship between owner and contractor
- To complete within the window timeframe of the project. Longer the closure worse off for the public to get to their destination sooner.
- A safe successful project for both teams. Where communication and patience weigh through. And by the end we hopefully know and learn some new things.
- The project is safely completed on-time and within budget and ODOT and the community are very happy with the final product.

Delays (In priority order)

Materials (10)

- Ruhlin and ODOT has been very proactive in staying ahead of the material lead times so far on the project; however, with the current volatility of the industry, material cost escalation and lead time is always something that could affect the time and cost of the project. This project does have a steal price adjustment included in the contract, so the cost of steal will be a factor.
- **Materials** - Ensure long lead time materials are on schedule, keep in touch with manufacturers
- **Materials** - This structure has approximately 1.7 million pounds of structural steel. The current structural steel market is tight and requires a lot of up-front coordination. The DBT and ODOT began working together immediately after contract award to expedite design and approvals related to structural steel. Due to this effort, the structural steel is already in fabrication and should be available for delivery in time to maintain the project schedule. Cement will likely be a risk on this project. Region-wide cement shortages have introduced new challenges to concrete suppliers, which have been extended to the industry as a whole. This of course could potentially present a schedule risk if cement is in short supply during the project. The project's scope calls for Type CM rebar in specific locations. This material is expensive and requires long lead times. This could pose schedule risk if any bars are bent incorrectly or missing in a delivery. This may require partnering and a joint effort between the DBT and ODOT if this situation arises.
- **Materials** Covid shortages (backorders and long lead times on critical path items)
- **Materials** - possible delay – lack of coordination or industry shortage
- Material lead times have been longer than usual over the past couple of years, need to make sure we plan accordingly.
- **Materials** – Beam delivery timelines was a major topic during the advertisement and selection process for this project.....and then area wide supply issues like cement.
- **Materials** – Contractors have attempted to mitigate any material issues by communicating with suppliers early and often.
- **Materials** :Structural steel fabrication performed in time for placing it. Would delay the project and not completing on time.
- **Materials** ordering of materials very important.
- **Materials**– If there are supply chain issues, material costs may be negatively impacted and the schedule of other dependent tasks may be negatively impacted.

Railroad (10)

- So far in the project, communications with the railroad have been acceptable; however, this is also an item that will need to continue to timely in order to stay on schedule for the project. Ruhlin has done well to ensure they are submitting item leaving adequate time for the Railroad to review, but if something pops up that was unanticipated, we will need good cooperation with the Railroad to minimize the impacts to the project. Flaggers will also be required, but as of now, the tracks are used minimally, so that should not be a huge impact to the project
- Railroad – The project is dependent on coordination & cooperation with the railroad
- Railroad - Good communication should alleviate issues, trains left unbroken on the tracks through the job limits could delay work.
- **Railroad** Railroads are always a risk. To this point in the project, the RR's consultant has been responsive and provided reviews within the contract times. Flaggers have also been available for early access work. Of course, it will be in the best interest of the project if the RR continues to provide reviews to design plans, construction engineering plans, and other submittals in a timely manner. The availability of flaggers and track time will be imperative to maintain the project schedule.
- Railroad - possible delay – lack of coordination or delayed RxR personnel response.
- Railroad can also cause a delay depending on what they need, but since there is no work on the tracks, this shouldn't be a major concern.
- Railroad – seems to be going alright for now, always a concern with flagger availability.
- **Railroad** – The railroad has currently been easy to work with, but it will be interesting to see once construction starts
- Railroad communications is needed
- Railroad– If RR protocols and rules are not followed, the RR may request a stoppage of work within their RoW

Weather (10)

- Flooding while construction is underway for substructures on the bridge piers.
- Weather Since a lot of the project is in a floodplain, weather will be a risk. Rain will present challenges as the creek rises and access/work areas become saturated. The closure window and contract do allow for 'day-for-day' weather days in lieu of the typical ODOT CMS 108.06 weather day table. The project schedule also dictates pouring the bridge deck in early Spring. This could be a schedule risk if the weather remains cold and pushes the deck pour
- **Weather** Natural disasters (Wills creek is prone to flooding)
- Weather - possible delay – weather
- Weather usually will cause some delays one way or another, cant avoid it but we will make up for lost days when we can.
- Weather – flooding could be an issue but hopefully not and only impactful for the substructure work.....general weather conditions are hopefully being anticipated by the contractor.
- **Weather** – no one knows what mother nature has planned.
- Weather can't fight Mother Nature
- Weather– if bad weather prevents work from being completed.
- **Weather-** Weather could be a major factor with the fact that the causeway will need to be accessible to construct a large majority of the bridge and if the causeway floods often or for extended time periods, this could delay the project. The project area is also a low-lying area that tends to flood often as it is without the addition of the TAF. This could cause issues with the installation of the foundations and the piers.

Utilities (7)

- Always a possibility of finding something unexpected
- Possible – if they do not follow through with any planned relocations
- **Utilities** Utilities can always present a risk. All existing records, plans, and OUPS markings indicate there should not be any utility conflicts with the proposed design. Utilities still always need to be kept in mind and considered in all work plans and operations.
- Utilities – possible delay – lack of coordination
- Utilities can cause delays sometimes but shouldn't be a problem if we stay ahead of things.
- Utilities – always a potential but no major concerns now
- Utilities – interference with work because they were not where they were expected to be.

Scheduling (6)

- Scheduling the work appropriately will be crucial for this project to meet the allowed closure timeframe. We tried to take into consideration material lead times and how the weather may affect the project, but there are still unknowns that can still greatly affect the project. Time is money, so the longer the bridge is closed, the more cost for the Department to keep it closed and to maintain the local detours.
- **Scheduling** The 345-day closure does present a schedule risk – there is a lot of work to be done during the closure period. I believe the risk is more on the contractor to utilize strategic overtime and other means to ensure the schedule is maintained. Overtime and additional equipment mobilizations introduce additional costs to the contractor.
- **Scheduling** Getting behind schedule (delay due to weather, material, labor shortages)
- Scheduling – this is the main access into town so it's important that we stick to the commitments that we made to the City on the timeline for the project....which is aggressive, and I believe is largely controlled by beam manufacturing and delivery.
- Scheduling we need to keep on schedule for everyone involved
- Scheduling – materials don't arrive on time and work is held up.

Aesthetics (6)

- The aesthetic treatment that has been scoped on this project does add cost and contributes to the schedule risk. Without the aesthetic on the parapet walls, these walls could likely be slipformed, reducing time and project cost.
- **Aesthetics** Light poles/sidewalk (Additional costs for decorative light poles and wider sidewalks which have been discussed)
- Aesthetics - possible delay – lack of coordination or need to reconstruct unacceptable product.
- Aesthetics – should match the bridge to the east...different contractor but should be clear what the expectations are.
- Aesthetics pleasing to travelling public
- Aesthetics– Possibly. Aesthetics have been defined in the scope. Unless there is a dispute regarding whether or not the scope was followed, this should not be a driver for project delay or added cost.

Sub-contractor Performance (5)

- This is always a risk. My feeling is the rebar installation sub will be the most important one on this project. We are working with a reliable, reputable sub so I'm confident they will perform as needed to maintain the project schedule.
- Sub-contractor Performance - possible delay – lack of coordination
- Subcontractors need to stay on schedule as well and any issues should be addressed quickly to minimize delays on the project
- **Sub-contractor Performance** – Constant communication will be key to mitigate any performance issues or delays caused by subcontractors not being prepared
- Sub-contractor Performance– The prime contractor is responsible for the performance of the subcontractors. If they perform in an unacceptable manner, the prime contractor is ultimately liable for damages.

Work Order Approval (4)

- Timely addressing of change conditions, RFI and processing of work orders is necessary to keep construction progressing.
- Work order approvals need to be processed in a timely manner and as early notice as possible to avoid delays.
- Work Order Approval – not anticipating issues with this at this time, contractor will need to let us know if they see an issue with something.
- Work Order Approval– If work order approvals are not completed on time, portions of work to follow may be delayed

Communication Protocol (4)

- Lack of communication can potentially cause delays and rework
- Communication Protocol - Clearly spell out levels of communication between entities. Follow chains of command.
- Communication Protocol – internally keeping our PIO updated shouldn't be an issue.....need to make sure we keep City in the loop as they will get majority of calls (probably)
- Communication Protocol– Miscommunications might cause confusion or misinterpretations during construction that cause unintended or costly actions.

Noise (4)

- The City has a noise ordinance which we have discussed with them the activities that will need to occur on the project which will require an exemption to the noise ordinance (aka nighttime work like the deck pour)...so hopefully not an issue but we just need to keep up the communication and provide notice and time.
- **Noise** – With the downtown so close there could be an issue with noise if there are any event happening around certain construction activities
- Noise keep noise to a minimum for surrounding public
- Noise– excessive and ongoing noise interrupts nearby businesses which seek compensation.

Public Relations (3)

- I'm not sure if this necessarily a project 'risk'. However, it will be important that the project team continues to communicate as needed and address any concerns received from the community.
- Public Relations – major access to downtown so keeping to the commitment on timeline is important.
- Public Relations–It is important to ensure that the public neighbors to this project remain engaged and accepting of the work being performed. If their property, health, or well-being are negatively impacted during construction, there is a potential that they might seek compensation.

Phasing (3)

- **Phasing** can cause a delay if its not performed or executed well.
- Phasing – just the general closure timeline
- Phasing– If the completion of a task is slightly delayed that controls the schedule of other tasks, more delays can compound.

Traffic (3)

- **With 209** being a main route to downtown traffic could be an issue
- Traffic keep detour clean and neat
- Traffic– If significant traffic backups adversely impact adjacent businesses

Other:

- **Other:** Bridge Demolition The demolition of this bridge presents unique challenges. The hinged girders, creek, RR, and overall access all contribute to a challenging demolition plan.
- **Other:** **New ODOT systems:** There will be multiple new ODOT systems in place this season and working through these could be a struggle

Fail

- Poor communication and lack of trust. I think one of the biggest factors for why projects do not go smoothly is because of poor communication between those involved in the project. If all parties are honest and upfront with one another when an issue arises, they can easily work together to overcome the issue. With communication, there needs to be trust. Trust in the other's capabilities, trust that each party is being upfront and honest, trust that both parties are making decisions for the betterment of the project. If there is trust, then often times, the communication will come much easier between the parties.
- Significant delays or other problems due to the factors identified above (utilities, weather, railroad coordination, poor communication).
- If either of the project teams do not respect the other and relations deteriorate. The project should be able to handle anything that comes up if both ODOT and Ruhlin's staff work together in solving problems.
- Everyone can agree that we don't want the project to fail. While unlikely, I think the weather and flooding variables are the most likely contributors to a failed project. These seem to me to be the most likely things that could contribute to a delayed schedule, which in turn adds additional costs for all stakeholders.
- Lack of partnering, unforeseen circumstances causing delay or excess cost, any injuries occurring.
- This project would only fail if there was a serious break down in communication between the parties involved. Addressing issues quickly and keeping good relations will help facilitate a successful project.
- Failure like with all jobs would stem from a lack of productive communication most importantly at the project level (including City) but also will everyone involved at all levels (involved at appropriate times and in an appropriate way).
- The project could fail if the parties involved lose site of the long term goal and get stuck on short term issues.
- The project will not fail if the communication between the project team is honest and transparent.
- Don't like to talk about failure but I guess I can happen. Let's all stay positive and keep lines of communication open. Any ideal can be a great ideal.
- If this project is not safely completed on-time and within budget and ODOT and the community are not happy with the final product.

IRT Recommendations:

1. Safety Julie, Morgan
2. Materials Audrey, Shotwell
3. Railroad Holbrook, Reed, Curtis
4. Scheduling / Weather Audrey, Shotwell
5. Utilities
6. Aesthetics / Noise
7. Communication / PR

(3 Members per team)

Draft Charter

Thoughtfully steward an on-time, to-spec, in-budget, injury-free bridge project that becomes a tangible source of pride and conversation for the city of Cambridge.