

Salt Lake City International Airport Expansion by Austin Okland Joint Venture

The project

Originally built in the 60s, the Salt Lake City International Airport is being rebuilt piece-by-piece through a series of projects. The [master renovation plan](#) is expected to be completed by 2028, when the whole original airport will be demolished. One of these projects is the new North Concourse building, which features 21 gates, renovation of a 850-foot-long underground tunnel connecting to the South Concourse, and a design-build baggage carousel.

The job

The SLC North Concourse project is a joint venture between Austin Commercial and Okland Construction. Austin Commercial, the managing partner of the Austin-Okland Joint Venture, was hired to manage the process of building the concourse as the lead Construction Manager and build the North Concourse Program as the CM at Risk. They also performed fit-out and mechanics for the underground tunnel linking the two concourses, and design-build services for the baggage carousel. Currently in the construction phase, the project is due to be completed within a tight 3 ½ year schedule. This case study will give an in-depth view into the coordination process used by Austin Commercial on the project.

Project team

Client	Salt Lake City Department of Airports
Construction Team	Austin-Okland Joint Venture
BIM/VDC Managers	Clayton Walder and Robert Maxfield
Architect	HOK
Electrical Contractor	Cache Valley Electric
Plumbing Contractor	J&S Plumbing
HVAC Contractor	North Star HVAC
Fire Protection	Fire Engineering



Figure 1. The SLC Airport's new North Concourse Building Phase 1 features 21 gates plus, 19 hardstands, and a 850' tunnel connecting to the South Concourse.

The challenge

Austin Commercial had to overcome coordination challenges on both the tunnel renovation and new concourse.

1. Renovation challenges on the tunnel built in 2004/05

After Austin Commercial scanned and modeled the tunnel, they discovered very tight tolerances. Coordinating a complex underground MEP system was a considerable challenge.

2. Stringent requirements on the new concourse building

Austin Commercial had to work with very particular requirements on the new concourse building that went far above the code requirements for different trades. The building features three floors: offices and airline spaces on the first level, airport gates on the second level, and mechanical rooms on the third level. Austin Commercial had to navigate constant ceiling elevation changes which required re-engineering and coordination adjustments, along with the communication challenges presented with all the disciplines involved.

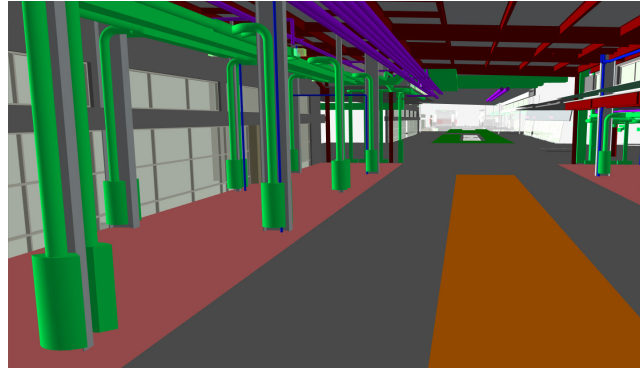


Figure 2. Renovating the underground tunnel posed a significant challenge, with an outdated model, tight tolerances, and a complex MEP system.

3. Tight coordination schedule

The above challenges were amplified by an ambitious 3 ½ year timeline for completion of the new concourse building complete with all gates ready to serve the public.

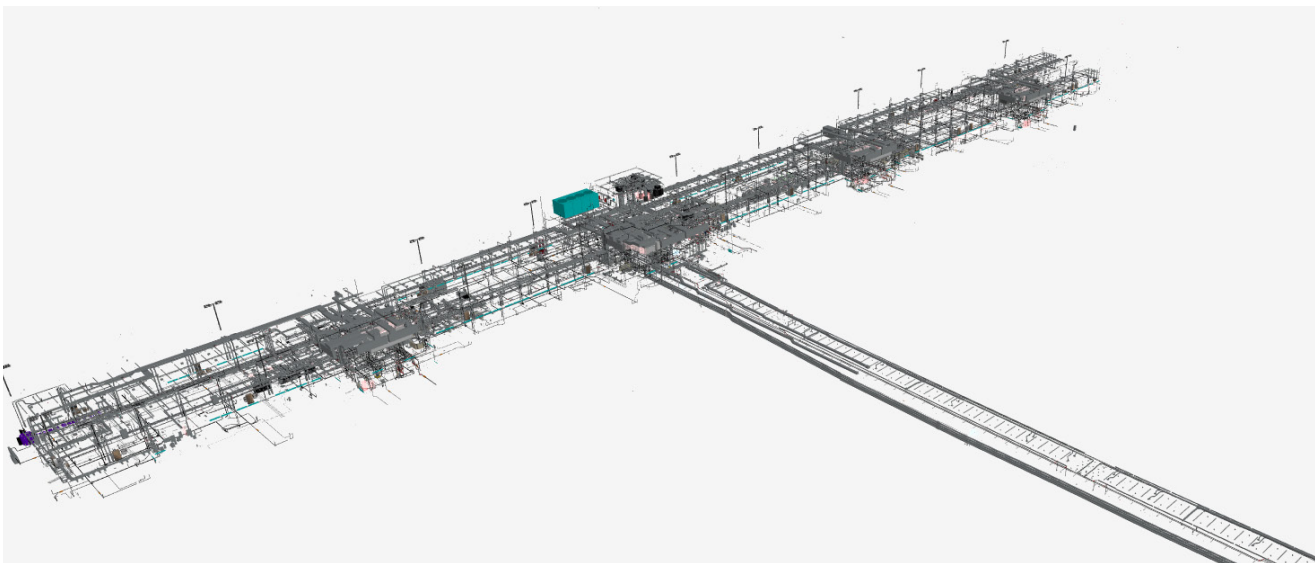


Figure 3. Phase one of Salt Lake City International Airport's New Concourse building features 21 gates, and a 850-foot-long underground tunnel connecting to the South Concourse.

The solution

Austin Commercial had previously worked on the Tampa Bay Airport project using a traditional project spreadsheet to manage and track issue assignments, and knew that way of working would not allow them to meet the aggressive timeline. The team at Austin Commercial were looking for an issue tracking solution that would provide more accountability and facilitate better collaboration on the project with all the project stakeholders. With so many collaborators, they needed a single source of truth. They had already used BIM Track back in its early days of Alpha and Beta development, so knew what information it could provide and the level of visibility it would bring to the project. Austin Commercial decided to implement BIM Track on the Salt Lake City North Concourse project, enabling them to streamline their coordination process with a single log-in, see a centralized list of issues, and view issues in their own authoring software for quick resolution.

BIM Track was easy for the project team to adopt, although the level of accountability it provided was a little uncomfortable at first! Once Austin Commercial showed users how it helps them access issues faster, close issues faster, view issues, and re-assign them as needed, it took off and people really loved it. In fact, one of the trades hired a third party who liked BIM Track so much they bought it to use internally within their own firm.

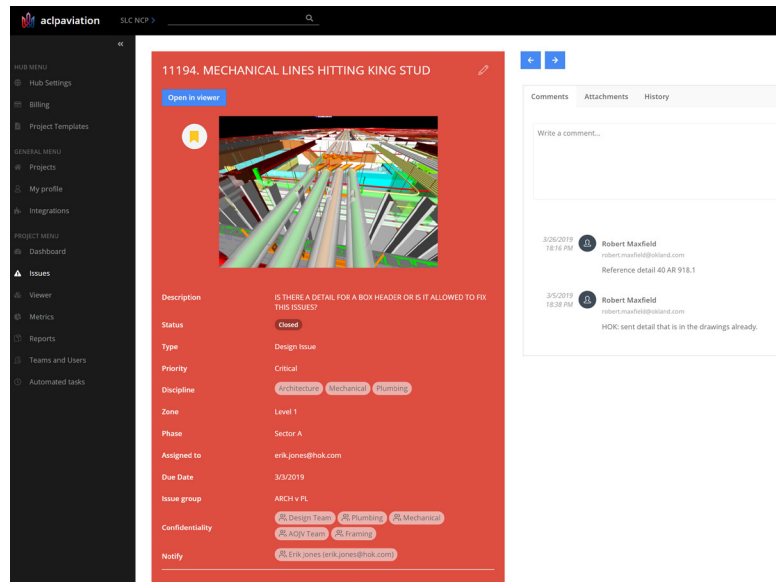


Figure 4. Austin Commercial used BIM Track to centralize communication and track issues more effectively.

BIM Track helped to solve the following coordination challenges

Streamlined coordination process:

BIM Track made their jobs easier. Working with a spreadsheet required a lot of manual work to ensure proper issue-tracking and follow-up. With BIM Track it was a lot more streamlined; issues created in Navisworks could be instantly accessed and resolved in the design team's authoring software.

Communication management:

Austin Commercial used BIM Track to centralize communication during the constant coordination changes that arose while working with stringent project requirements of the new concourse building.

Managing subcontractors:

Austin Commercial found BIM Track invaluable for pinpointing delays and providing objective information, such as who was responsible for holding up sign-off on an area. The full issue coordination history provided by BIM Track makes resolving hold-ups as simple as a quick conversation backed up by objective information.

Coordination workflow:

- 1** First, the Austin Commercial coordination team created a coordination issue or design issue flagged with a custom issue attribute for a separate design meeting.
- 2** Then they went through an organized list of issues in BIM Track and track resolution progress week-to-week.
- 3** Once the issue was resolved, it could be escalated to an RFI if needed using the BIM Track + Procore integration and sent to the engineering team.
- 4** Once the RFI was returned or answered, it was updated in BIM Track as “answered” or “returned”.
- 5** To complete the feedback loop, the design team could use BIM Track to access the issue in one click in their authoring software for fast resolution and up-to-date models. They were also able to give the on-site team the responsibility to close the issue and manage in-field issues.

BIM Track provided a simple way for them to make sure Austin Commercial had visibility on what was coming up or being changed.

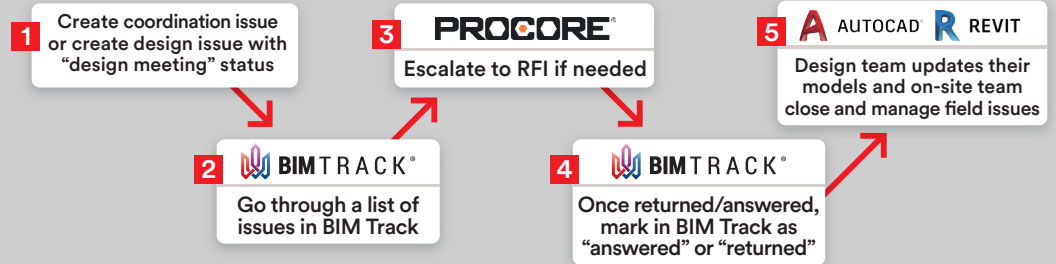


Figure 5. Austin commercial's typical coordination workflow

Coordination meetings

Austin Commercial used BIM Track to facilitate their twice-weekly coordination meetings. After assigning issues to trades, they would go through all the issues and use a priority filter in BIM Track to flag any issues that urgently needed addressing, knowing that BIM Track was keeping the team accountable on the non-critical issues. During meetings, it was easy for subs to identify issues for discussion by issue number.

Close collaboration with the owner:

BIM Track helped Austin Commercial collaborate closely with the project owner down to the smallest details such as managing the positioning of all the terminal lights, valves, and each security camera to get the view the owner required. Creating issues on-the-spot with BIM Track during discussions helped the team to keep track of updates and changes, and help to ensure a speedy coordination process while working with such a tight schedule.

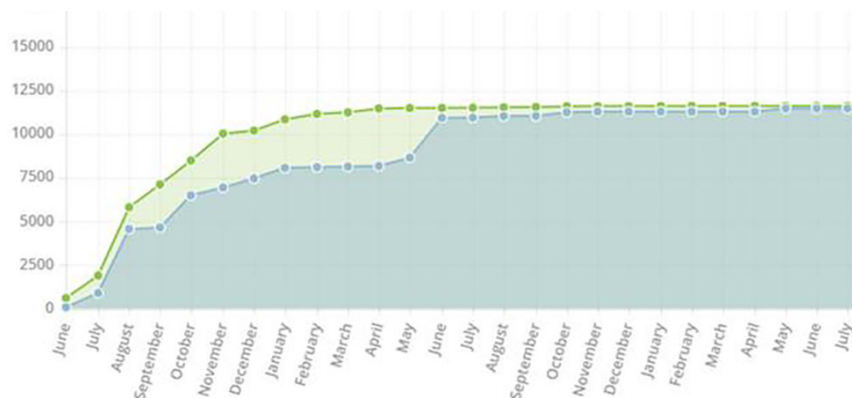


Figure 6. Graph showing open vs. closed issues. Austin Commercial used BIM Track to track overall issue resolution progress and keep teams accountable

The results



Estimated
time-saving of
2-5 minutes
per issue



Responsibility and
accountability
in the field



Transparency
and protection in
resolution disputes



Developed
company-wide
best practices

BIM Track's "view in model" feature meant the team was able to open issues directly in authoring software without wasting time locating the issue.

Austin Commercial would track design issues and the on-site team would close and manage in-field issues.

With complete visibility on issue resolution and schedule hold-ups, and a non-deletable communication thread, BIM Track kept teams accountable and protected Austin Commercial from resolution disputes.

Austin Commercial used BIM Track to develop company-wide best practices for gathering and tracking metrics with an unprecedented level of detail.

99%
of 10,000 issues
RESOLVED

We had a very tight schedule and many systems needed to be coordinated and installed in a compressed time frame. We selected BIM Track to create better visibility for all the project stakeholders on operational issues, responsible parties, and a path to resolution.

The efficiency gains realized in the design coordination process using BIMTrack enabled us to start superstructure and MEP install with most issues already resolved. BIM Track's reporting and tracking tools helped the Austin Commercial Team **open the concourse three months ahead of schedule**, even after losing six weeks on the start due to steel fabrication procurement issues. We would not have coordinated and installed systems as quickly if we had not decided to use BIMTrack.

BIM Track allows us to add rich information to issues that give us tracking information to make sure we stay on task and hold each other accountable. The thing I like most is the ability to add more information, photos, or attach documents that otherwise we would not be able to keep in one place. We can share the information with other parties across multiple programs like Navisworks, Revit, Tekla, or even open them in a web browser. This allows people from different departments and different companies to take part in the coordination that otherwise would not be able to participate due to the software requirement. When all parties start to use BIM Track actively, it helps speed the coordination process up while adding more information and visibility into the project.



CHANDLER MCCLELLAN

Senior Superintendent
Austin Commercial



CLAYTON WALDER

BIM Manager
Austin Commercial

“BIM Track has basically revolutionized how we track and gather metrics, and helped us to standardize our processes. There was no easy way for us to do it just with Navisworks viewpoints.”



SINDHU GUNDIMEDA
Senior VDC Manager
Austin Commercial

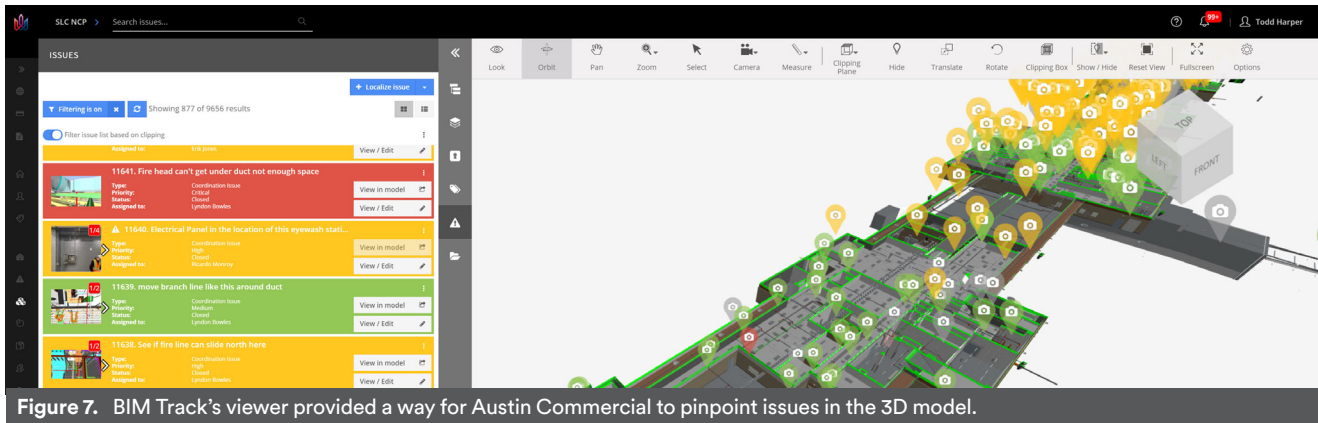


Figure 7. BIM Track's viewer provided a way for Austin Commercial to pinpoint issues in the 3D model.



About Sindhu Gundimeda

- 8+ years experience as a VDC manager and estimator with Austin Commercial
- Shared her experience as a Graduate Teaching Assistant at the University of Oklahoma
- Trained as an architect and in Construction Administration.



About Austin Commercial

Austin Commercial is a subsidiary of 100% employee-owned, Austin Industries. Austin has been a strong force in the construction industry since 1918. Ranked #32 in ENR's list of Top General Contractors, Austin is nationally recognized for our exceptional safety records, diversity-inclusion program, and innovative construction solutions in the following markets: advanced technology, aviation, corporate/office, healthcare, hospitality, mission critical, mixed-use/retail/residential, public assembly and sports, and university.



About BIM Track

BIM Track is an issue tracking platform designed to enhance your coordination workflow and communication. Users can create, comment on, and resolve issues from BIM Track's web platform, or directly in their preferred clash detection or authoring software. BIM Track makes communication transparent, traceable, and more efficient.

See how BIM Track can
improve your next project