

# Implementing TI Construction into Cal Poly's Construction Management Curriculum

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Office space construction use to be dominated by ground-up construction; however, in recent years we have seen a large movement to TI construction, which now dominates office space construction. Currently the California Polytechnic State University, Construction Management program does not have a course that covers any information dealing with TI construction. Since Cal Poly Construction Management Department has been proven to produce some of the most prepared graduates heading into the workforce, the department should implement TI construction into the current curriculum allowing students to become better rounded in the construction industry and prepare them for construction industry that is moving towards more TI construction. In order to develop a course for TI construction I performed a literature review, which shows why there has been a large demand for TI construction and the most common TI processes. From there I conducted two interviews with industry professionals and sent out a survey to all the current CM students to gauge their interest level in TI construction. Using this information I received from both the interviews and survey it was determined that the Cal Poly's Construction Management Departments should implement TI construction as a tech elective course.

**Keywords:** TI Construction, Tech Elective, Tenant Improvement, Renovation, Existing Conditions

## Introduction

Currently how our Construction Management curriculum is set up, it isn't doing a good job with making the current students well versed in the construction industry. The current curriculum does allow students to learn a lot of good information, which helps them during their internships and their first couple years out of school. However, the current curriculum is being taught one-sided and is only focused on teaching students about ground-up construction. By only teaching students about ground-up construction, the Construction Management Department is not preparing the students for the real world because in most cases you won't be dealing with only ground-up construction throughout your career. So if the construction management department wants to make their students more well rounded within the construction industry, the department should implement TI construction into the curriculum. By adding TI construction into the curriculum it will give the students the opportunity to learn something new about the construction industry, allowing the students to have more knowledge about the construction industry and not be stuck only learning about ground-up construction.

## Literature Review

As construction management students who are enrolled in the Construction Management Department at California Polytechnic State University, we as students should be taught topics that will help make us well-rounded CM students, which will make us more prepared for the workforce once we graduate. In order to make CM students at Cal Poly more knowledgeable in the construction industry, I believe

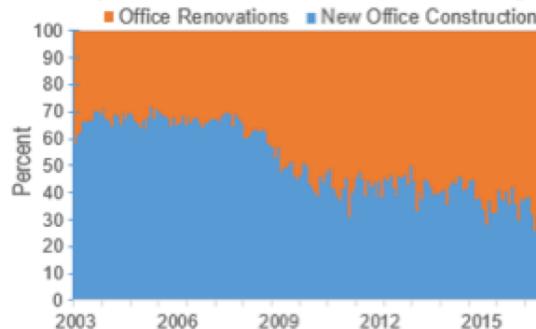
we need to relook at our current curriculum and implement a Tenant Improvement Construction (TI Construction) course, which will allow students to learn something other than ground-up construction.

### *Terms*

- Ground-up Construction: a building that is built from scratch on an empty piece of land.
- Tenant Improvement Construction (TI Construction): the custom interior finishes that a landlord or tenant makes to a commercial rental space (office, retail, or warehouse space) to make the space more functional (Smith, 2017).
- Improvement Allowance: money given from a landlord to a tenant to help pay for some of the improvements the tenant wants done to an existing space. Also the specific amount of the allowance is negotiated into the lease, which also specifies what the tenant can use that money for (McDonald, 2019).
- Turnkey Build-Out: when the landlord agrees to pay for all construction costs and get compensated for the construction cost through the tenant's rent (What's Better for Tenants, 2017).
- Shell Building: a structure that has empty spaces without interior walls, flooring, ceilings, plumbing, etc. and still hasn't be classified with a known tenant.

### *Background*

In today's construction market ground-up construction is the most common type of construction; however, in the last couple years office buildings/spaces have seen a large demand for TI construction. Figure 1 shows how the market for offices spaces was dominated by ground-up construction from 2003-2009, but after 2009 we saw a large increase in office renovation also known as TI construction, which totaled close to about 75% of the whole market space. Most of the improvements that tenants want in their spaces are flooring, ceilings, partitions, air conditioning, etc., but TI construction can become very complex when a tenant has a space and the tenant wants to use the space for something completely different from what the space was originally used for.



*Figure 1: Shows how the percentage of construction for office building has changed over the years from being mostly dominated by ground-up construction in the beginning, but is now dominated by office renovation, also know as TI construction (Durham, 2017).*

There are many different reasons why we are seeing a large increase in TI construction, but an article by Andrew Batson, explains 3 trends for why TI construction is skyrocketing:

1. A new generation in the workplace: the workforce is currently starting to see more and more millennials join the workforce. Due to this increase of millennials joining the workforce it is causing companies to compete for their talents, and these companies are relying on TI construction to redo their current office spaces and gear the style towards a millennial preferred office space, such as having an open floor plan.
2. Urbanization fills vacancies in downtown areas: many new companies looking for a unique style and convenient location are making many of the existing office buildings in downtown areas very desirable. TI construction is allowing these new companies to bring these older city office spaces back to life with open and collaborative space.
3. Technology transforms the market on both a macro and micro scale: technology has reshaped how consumers and companies view how a typical office space should be used. An example of this is some companies are converting existing retail centers into pick-up and return depots to make it more convenient for the customer (Batson, 2018).

Although we have many trends for why TI construction has increased over the years one of the main driving forces that has caused this large increase in TI construction is because most towns/cities have used up all their available building space over the years, which leaves the towns/cities with building spaces that have visible wear and tear on them. Due to these building spaces having this visible wear and tear, it causes the building to have an outdated feel to them, which makes the spaces harder to rent out. This causes owners of properties to either doze<sup>1</sup> their current building to create a new building that will be more suitable for potential tenants, or find tenants that need space for their work and use TI construction to redo the existing space and make it more practical for the tenant's use.

### *TI Construction Process*

When it comes to TI construction there are a couple different ways for how an existing space will be renovated. If you have recently just moved into a new office space or have been in the same office space for 20 years and decided that you want to renovate the space, you will need to carefully look at the signed lease agreement. In the lease agreement there should be a section that talks about renovating the space and how to proceed with the completion of the renovation. The most common ways for TI construction to be performed is either by the tenant obtain an improvement allowance, the landlord agrees to do a turnkey for a tenant, or the tenant finds a shell building.

When it comes to a tenant obtaining an improvement allowance it is very important to understand what you can use the improvement allowance on and how much money you have in the allowance. Generally the improvement allowance is based on a dollar per square foot, which should be in the lease agreement if your landlord offers improvement allowances to tenants. Landlords usually only allow the tenant to use the improvement allowance on hard cost, which include framing of new walls, HVAC work, doors & windows, and new flooring. Landlords will not allow tenants to use the improvement allowance on furniture/fixtures, electronic equipment, data collecting, or moving expenses; however, some landlords may contribute a small percentage of the improvement allowance to cover some of these costs just to secure the tenant. The most important thing for tenants to understand is if the TI work goes over the improvement allowance budget, it is the tenant's job to put up any remaining costs that the improvement allowance didn't cover (McDonald, 2019).

Landlords today are more interested in doing a turnkey method instead of giving the tenant an improvement allowance to complete the TI work. The reason why landlords are moving towards the

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<sup>1</sup> Doze: clear ground or destroy buildings, trees, etc. with a bulldozer

turnkey method is because it gives the landlord more control of the work being done. Also with the turnkey approach the renovations are completed much cheaper compared to if the landlord would have offer the tenant an improvement allowance. One drawback that a tenant should worry about is due to the landlord completing all the construction cost, some corners could've been cut to reduce costs and you don't really know how much the rent is officially going to be for the space ("What's Better for Tenants," 2017).

Currently something new called shell building has hit the construction industry and it is one of the reasons why we are seeing a rise in TI construction. With shell buildings landlords have a construction company that will come in and do the ground-up work, but will leave the inside of the building bare. Once the landlord finds a tenant that wants to occupy the space you then would have a TI company come in and complete the rest of the work, so the space can become workable. When it comes to shell buildings instead of the landlord having an improvement allowance or performing a turnkey for the tenant you have something called a shell building file. A shell building file is a document that lays out what the landlord is going to pay for and not pay for to make the space workable. By having this system in place it allows landlords to quickly find tenants to occupy the space and the tenant will know how much of their own money they are going to have to put into the space do to having very few unforeseen conditions.

## **Methodology**

In order to develop and possibly implement TI construction into the current Construction Management curriculum at Cal Poly, San Luis Obispo, a literature review was performed that defined TI construction and why TI construction should be taught in the current curriculum. The method used to collect the data I need was done through interviews and a survey. The interviews were done with experienced individuals that work in TI construction, each with different points of views. I asked them what they thought about the concept of implementing TI construction into the current curriculum and if TI construction was on the rise. Also a survey was conducted by sending a survey to all Construction Management students at Cal Poly, which was used to determine and find out if there is a demand from the students to learn about TI construction. Once all information was gathered and analyzed I would able to conclude if Cal Poly's Construction Management Department should or shouldn't implement TI construction into the current curriculum, and if there was a demand for TI construction to be taught, what would be the best way to implement TI construction.

## **Results and Findings**

The following information was gathered from the two interviews I conducted with experienced individuals in the construction industry that deal with TI construction. The goal of these two interviews was to get more information about TI construction and to find out if they thought it would be a good idea to have TI construction taught to students. Also my survey results are located below showing how interested CM students are in broadening their knowledge of the construction industry, what would be the best way for TI construction to be taught in the current curriculum, and lastly how interested students would be in taking a TI construction course.

### *Interview Testimonials*

In order to get more information on TI construction and to find out if it would be a good idea for Cal Poly's Construction Management Department to implement TI construction into the current curriculum, I interviewed industry professionals that work for companies that focus on TI construction. By reaching out to a company that does 100% TI work, I was put into contact with Cris

Nielson. I also reached out to the owner of one of the companies I interned with and conducted an interview with Kevin Balestrieri.

*Cris Nielson, Gateway Construction Services Founding Partner*

Cris Nielson has been in the construction industry for 24 years and founded Gateway in 2001 located in Seattle, Washington. Currently Cris is the acting CSO of Gateway. Currently Gateway is a company that does between 150-200 TI projects a year. I was very fortunate to get put into contact with Cris to discuss implementing TI construction to the current curriculum and what he thought about the idea. The interview proceeded as followed:

Interviewer: Do you currently believe TI construction is on the rise and do you see it leveling off anytime soon?

Cris Nielson: "I believe the current market will keep rising, because TI is based on the time a lease ends and during this time the tenant either decides to move out of the current space do to the company's growth or renovate the space to make the space more functional. As long as the vacancy levels stay low, TI construction will still be in high demand."

Interviewer: When running a TI project are you in contact with both the landlord and the tenant and what TI process is most commonly used?

Cris Nielson: "We mostly deal with both but it also determines what the lease says; however, it's easier to just deal with the landlord. During the last 5 years the majority of the projects we have worked on have been turn key projects."

Interviewer: Do you think it would be a good idea for Cal Poly's Construction Management Department to implement TI construction into the current curriculum?

Cris Nielson: "I think it would be a good idea, but I don't think it should be a course every student needs to take. Ideally if you were to implement TI construction to the current curriculum it would allow students who were interested in TI construction to learn more about the topic, which would allow them to determine if they want to work for a company that focuses on TI work."

*Kevin Balestrieri, BALI Construction President*

Kevin Balestrieri has been in the construction industry for 18 years and is the founder of BALI Construction and of Alhambra Valley Millworks. Currently Kevin is the acting president for both companies. BALI Construction is a company that mostly focuses on TI construction, but has done ground-up projects as well. I was able to get in contact with Kevin because I interned with BALI Construction one summer and I knew he would be able to provide useful information, and see what he thought about implementing TI construction into the current curriculum at Cal Poly. The interview proceeded as followed:

Interviewer: Do you think it would be a good idea for Cal Poly's Construction Management Department to implement TI construction into the current curriculum?

Kevin Balestrieri: "Yes, TI construction should be implemented into the curriculum because we are getting to the point in construction where we are running out of usable land and will see a large movement from ground-up construction to renovating/TI construction."

Interviewer: Do you think TI construction would be best taught within the current Commercial class that's already in the curriculum and have a week dedicated to TI construction, or do you think it would be best taught through a tech elective which would only focus on TI construction?

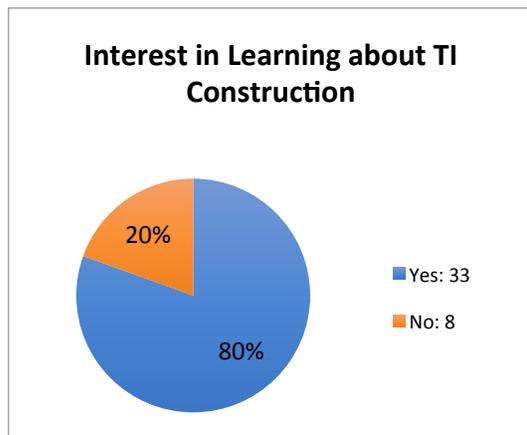
Kevin Balestrieri: "Best taught as a tech elective course because of the amount of information that goes along with TI projects. A tech elective course would also allow for a better learning environment since the students that enroll in the class would have some interest in TI construction."

Interviewer: If Cal Poly was to implement TI construction into the current curriculum what topics do you think should be covered?

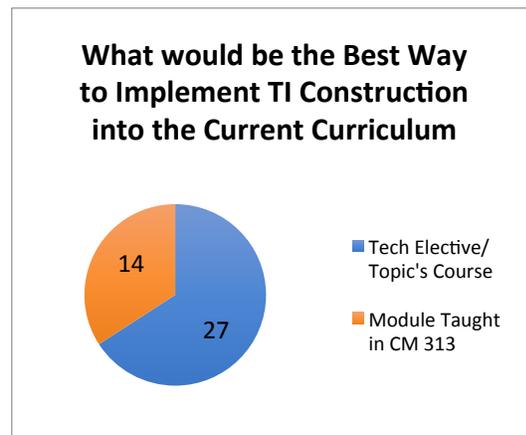
Kevin Balestrieri: "Some topics that should be covered in the course are tying into existing conditions, unforeseen conditions, design problems because drawings will never be 100% accurate, and the ability to work with the landlord, tenants, and surrounding tenants in the office building."

### *Survey Results*

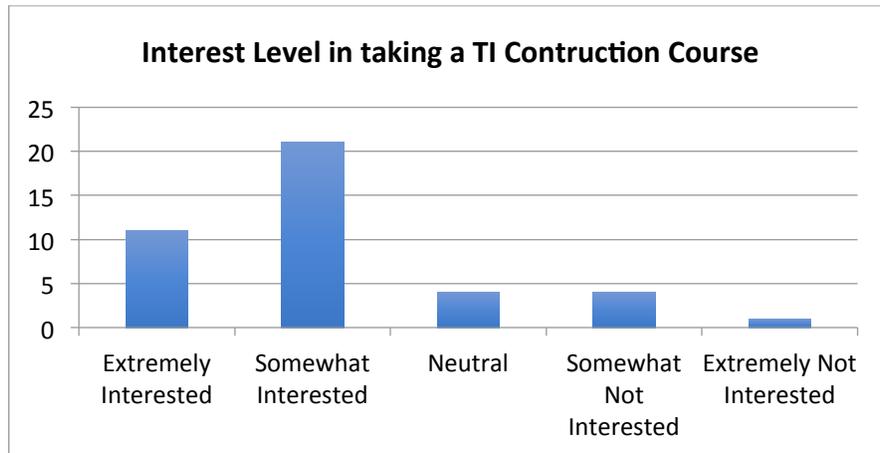
Although the two interviews gave good reasons for Cal Poly's Construction Management Department to implement TI construction into the current curriculum, I still need to determine if the current CM students had an interest in learning about TI construction. So I decided to send out a survey to all current CM students to gauge how interested current students would be in learning about TI construction and find out how interested each student would be in taking a TI construction course. I also listed possible topics that the course would teach and gauged how interested students would be in learning about the topic. This section was mostly done to help with further research for another CM student wanting to create the curriculum for the TI class depending on if there was a demand for TI construction to be taught. Below figure 2-4 shows the data that was collected from 41 students:



*Figure 2: This graph shows how interested current CM students are in broadening their knowledge in the construction industry and learning about TI construction.*



*Figure 3: This graph shows what current CM students believe the best way for the CM department to implement TI construction into the current curriculum.*



*Figure 4: This graph represents if Cal Poly's Construction Management Department actually implemented a TI construction course into the current curriculum, how interested current CM students would be in taking the course.*

## Conclusion

The construction industry is constantly changing and it is important for Cal Poly Construction Management Department to update and provide classes that allow students to broaden their knowledge within the construction industry. After conducting my two interviews with industry professionals and collecting data from my survey, I believe the Construction Management Department at Cal Poly needs to add a course on TI construction. Based off the information I received during the interview and survey, I believe the best way for the Construction Management Department to implement a TI construction course into the curriculum is to make it a tech elective course. A tech elective course will allow for more information to be taught and for a better learning environment, because the students in the class will all have some form of an interest in TI construction. Not only is there a demand for TI construction to be implemented into the current curriculum, but there is a large demand for TI construction in the construction industry.

## Further Research

The research done for this project was done to find out if the current students enrolled in Cal Poly's Construction Management Department were interested in learning about TI construction. Since there ended up being a demand for TI construction to be implemented into the curriculum, a future senior project can be for another student to create the curriculum for the course by designing activities and PowerPoints that will cover the important topics that deals with TI construction. Some important topics that should be covered in the course curriculum is:

- Different Lease Agreements
- Difference between Turnkey & Shell-Buildings
- Difference between Interior Improvements, Tenant Improvements, and Landlord Improvement
- Converting an existing industrial building for a different industry/ new occupant
- Existing Conditions and Unforeseen Conditions

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