

Crime Prevention Through Environmental Design

Toolbox Series Video Transcript

Okay. Welcome everyone. We're going to go ahead and get started.

Please continue to enjoy your lunch. We still have some other folks joining us, but we've got a nice room full of people.

So thank you all for taking time out of your lunch to be here today.

My name is Debbie Lammers. I'm the assistant vice chancellor of learning and development, and I get the great pleasure of introducing our speakers for today.

The talk today is going to be on crime prevention through environmental design.

And we've got some amazing speakers here with us today.

I'm going to introduce three of them, that are here with us today.

First off who should really not need any sort of introduction is chief Randy.

We should all know, chief, right? He's there.

And if not, you should get to know him very well. He's a he's a great guy.

Randy is, he is the assistant vice chancellor, chief of police for our campus.

He's been the police department is comprised of four divisions the police services, electronic security, emergency management and preparedness and support services.

Randy has been with CU Anschutz for six years and served five years with CU Boulder.

But we will not hold that against him in any way, shape or form for doing that.

He was the deputy Chief of police there. He's got a B.S. in economics and an MBA, both from Colorado State University.

Yes. Oh, yes. and we also have Jay Campbell with us today.

He joined CU Anschutz Facilities Management team in 2015.

He's now serving as the associate vice chancellor, facilities management and planning.

He's blessed to lead a team of 276 dedicated professionals that keep the campus facilities and grounds running smoothly and looking great, 24 seven 365 days a year.

So that's really great because, I mean, we've got a wonderful facility here and they always look amazing.

And then we also have Gregory Gibson with us here today. He joined.

CU Anschutz facilities management in 2020.

I've also had the pleasure of getting to know him through the Excellence in Leadership program over the last several years, and he's been amazing to work with. He's now serving as executive director for building maintenance and operations, and he's focused on providing the highest levels of customer service and facilities maintenance for the university community.

And they also have someone else with them who I'm going to allow him to introduce himself.

Welcome all of you, and thank you for having us here today. And I'm Delica and I'm also director with facilities Support Services under Jay.

I've been with the university for 19 years now, and also, part of the team that I enjoy keeping this campus looking as good as possible and as safe as possible for you guys.

All right, look at that. It works. All right, everybody, thank you for for coming out and spending the lunch hour with us.

We really appreciate the opportunity just to get up here and show you some of the tremendous work that we've been doing to try and improve safety around the campus, COVID to improve the crime prevention activities of the police and facilities, focus on, pretty heavily.

And just to give you an idea of some of the great work that the teams have been doing.

So I am not going to stand up here speak the entire time.

I'm basically just here to kind of kick it off for the gentleman to my left over here, and then answer any questions once everything is said and done.

So with that. Great.

Okay, so I apologize in advance because I tend to talk faster than most people can listen.

So, Debbie, throw something at me. If I start going so quickly that nobody I'm talking about.

And actually.

So today this is going to be a tag team with the police department facilities, primarily because when we're talking about environmental design, a lot of things that they do to build into either the design of a building, design of a walkway or, the ongoing maintenance of the landscaping helps to increase security and safety on campus.

So I just kind of I'm riding on their coattails today.

And you're also going to hear some really, fascinating stuff that, that Gregory and Dale have done in the whole area of lighting.

And it's not just a one and done. So I thought it was a great opportunity to, for us, just talk a little about septet, which is, it's a common practice in security and in policing crime prevention through environmental design.

It's just giving some thought to, how to, build in to your environment, structures and or systems that help to enhance safety.

So just to explain a little bit about what these four principles are. Control of access is not just control but use to facilitate or restrict.

We'll talk a little bit two about what we do on access for the buildings.

The idea of providing opportunities to be seen and to see is just enhancing, sightlines and or nighttime, lighting, either on walkways or in garages. then define ownership through territorial reinforcement, basically making it clear through the design whose area this is to try to limit, say, encroachment or, or the misuse of an area and then the maintenance of areas just to ensure that continuity of access control, but a little about sightlines, and basically reap the benefits from the infrastructure improvements.

So a little bit about access control.

One of our divisions, electronic security, in fact, that Greg Sullivan sit in the back is our director for electronic security.

That's our security badging office in the Simmons building. And then the electronic security division, which manages all of the hardware.

And then collectively with the badging office, the software. So there is there is a policy, a campus policy, 3032 A that states what the standards and what the mission is when it comes to access control for the campus.

Prior to COVID, actually, as you say prior now.

Well, yeah, prior to COVID being the impact that it was on our campus, all of our buildings were open generally from 6 a.m. to 6 p.m. during COVID because we had such a limited population on campus, which meant you had buildings, and these averaged about 100 to 200,000ft² apiece with hardly anyone in them.

A lot of equipment, a lot of, other like in research, some intellectual property that we want to protect as we went to a more secure campus following.

So I guess we probably went in the spring of about 2022, we began to reopen some of the buildings, but to facilitate access control, for example, the education buildings, research buildings.

Most of them still remain. Badge access only. Any member of our campus community, faculty, staff, students, as well as many of our partners from the hospitals have access control bags and can get into the common areas 24 seven.

But we have continued to maintain stricter level control for those areas that are limited use clinical locations.

So school dental medicine, Barbara Davis the health sciences building.

They have open hours and in most cases, there's a staff member near that door that can, assist people coming in if they've gotten into the wrong building.

And in fact, if you've been here very long, you probably run into someone in the Ed quad looking for the outpatient pavilion.

So we also see it as customer service so we can help get them to where they need to go.

Or in the event that someone has ill intent, maybe looking to steal something or to cause further damage, we could intervene earlier and just limit their access.

So we continue to maintain a combination of open and controlled access buildings on campus.

And when we. One thing that we learned during the COVID closure was we were able to track what was the difference between our property crimes inside the buildings.

While it was locked down versus when it, when it was opened in 2019, which was the last full year before we went into a series of modified access processes.

We had 44 theft cases, totaling just over \$27,000 in value last year, 2023, which would be the first full year where we got primarily this new posture.

We were down to ten theft cases. and the total value last year was under \$8,000.

Now that dollar value has kind of been rolling.

But we have consistently been down around 10 to 12 incidents of theft, whether it was personal property or university property from the buildings.

So there is some return on the investment there in addition to given our location near a couple of facilities that Aurora has for individuals experiencing homelessness.

The day resource center, there's a crisis shelter just north of Montview.

Occasionally some of those populations, might be looking for a place to get warm and and being able to help them get to where they need to go, as opposed to having them end up in a building somewhere, has been a better long term solution.

That also reduces our potential for conflict, with individuals in those circumstances.

So we think that access control has been a pretty, successful experiment, so to speak.

The current posture works for us. How do we perform access control?

We use a combination of hardware, software, and then your access control badges.

So your your badge. a lot of people call this your ID.

It's really not your ID. It is pretty much just your key to get in and out of the into these buildings.

And then in some of the locations, like the research towers where you have, a limited need for many people to be in there.

Those areas are controlled, much more strict. We don't determine who gets access to any particular space.

Greg's team works with a with a group of about 300 access approvers across the campus, different schools, colleges and departments that they determine who needs access into those non common areas.

But you can get into a hallway, you can get into, you know, the lobby area of the research buildings.

But getting into a lab space. That access is very limited. And it's partly to protect the research.

It's in there. Sometimes it's to protect the individuals in certain areas.

Personal protective equipment is required to be in and around some of the material, and we have had incidents where individuals leaving doors open have led to damage to research.

So that access control is it isn't. I hope it doesn't come across as elitist.

It has helped people who own those spaces to, accommodate greater, accountability for those areas.

So we use the hardware, the software and the decision makers to help us determine who gets access to where.

And then the last piece here about we're here from you. We are open 24/7.

We have the Police Services Division, which are our uniformed police officers, a small contingent of security officers, but they're on campus 24/7.

If you ever need to reach us, if you happen to have, safe zone on your phone.

In fact, if you're not familiar safe zone, you can go to our website under the Emergency Management Division section and download Safe Zone.

That's just a push of a button and we will know where you are. But if you're going to call the police department on campus, whether emergent or nonemergent on the cell phone, it's best that you use our ten digit number-- the 303-724-4444. 911 works.

But inside our buildings on a cell phone or on campus on a cell phone.

Originally, your call is going to go to the Aurora 911 center, and then they're going to transfer your call back to us.

We would like for it to get to the the first responding agency.

If you have an office with a hardware phone, 911 on campus will tell us, whose office that is.

We'll also give us the location of the office. So even if the person never makes a statement, for whatever reason, someone's got a medical emergency, they don't get a word out, but they got a connection.

We'll get a location, and we can get there. I would say I'm probably turning this in a longer.

There needs to be. the other way that we can reach out to you again, back to the safe zone.

We can send a message to safe zone, users on campus by trying to geofence around campus.

We don't have the level participation rate yet with safe zone that we do that regularly.

However, we also use CU alerts, the software of the program that we we use as rave.

You might sometimes hear people use those interchangeably. A rave alert receive alert the most often on this campus.

We probably use more often than not for blizzard conditions. If campus is not going to be open today.

We'll send out a message that morning letting you know that either, nonessential personnel need not report or that there's a modified, status as far as operating on campus.

We will also use that in the event of an emergency. I think that on our campus, we've had incidents.

So, for example, during construction, it's not uncommon to hit a gas line.

So a construction team hits a gas line. We got a natural gas leak that, is somewhat of an imminent emergency.

We'll put a message out advising people that we have this this, matter.

Say, Matthew and Ursula to stay away from there.

We try to give that information to our constituents so that, you know, what you can do to keep yourself safe.

I think I hit all the other. The last one that we all do periodically is a timely warning.

Do you actually would have seen a couple of these the last couple of years?

We did them when we had a serious string of motor vehicle thefts.

It was happening so frequently that we needed to communicate that to you.

We also have done them when we've had crimes against persons. That's a requirement under federal law.

The Cleary Act requires a timely warning in the event of certain crimes occurring within our geography.

And if there's any continuing threat to the campus community. The ones that we're most sensitive to is a crime against persons.

Not having your car stolen isn't a big deal. But it isn't quite as imminent as, say, a robbery or an aggravated assault.

So that's the communication pieces. I'm actually gonna turn it back over to Dale, and he's going to talk a little bit more about that scene and being saying some of the great things that his team is doing.

Thank you. First, I would like to talk to you guys about a level of responsibilities and our campus in general.

We are basically, the university owns around 260 acres of land across the entire campus and around six miles of roads.

The facilities on unmaintained for the university.

We believe that our campus, our grounds and our roots.

And parking lots are the first and last impressions of people, that our visitors, you know, staff, faculties.

When students encounter one their visitor at campus on a daily basis or on a one time basis.

And we would like always to make that encounter a blessing and a friendly, experience for everyone.

Earlier in the year. we're talking about, campus events.

We have several events, outdoor events and indoor events for the entire campus.

Our main one, obviously, is the commencement event during the month of May every year in which we, we prepare for up to seven convocations throughout the entire campus.

And hundreds. Maybe thousands of visitors each year for these these events.

We also have, food trucks on Wednesday during the summer.

Something that is very popular across the entire campus.

As well as multiple small outdoor activities.

The entire campus. And this is something that obviously we, we managed throughout the entire year. And we want to make sure that. The experience is always as pleasant as well.

During the inclement weather it's our objective to provide full access for our campus.

As well as safe travels between parking lots and buildings.

Buildings to classrooms, labs, cafes as well as from plaza to plaza. Are we do these want to make sure that our sidewalks and walkways are clean and free of ice, snow, and ice as possible to make sure that.

Those travels are safe as possible.

One of the things that we also do on an annual basis is that we do an inspections over to our walkways and plazas, with intent should identify and remove a tripping hazard. We usually do that at the beginning of the spring.

But this year, with the shift of temperatures, we have noticed a tremendous amount of, sidewalks cracking and just actually, coming apart as well.

And we started a little bit earlier this year. The last two weeks, we've been working on sidewalks and, a plaza as well of pavers are doing some repairs to make sure that we eliminate any type of tripping hazards.

I don't know if you have noticed this about the entire campus. This is something that we usually do the beginning of the spring year.

But, we're starting earlier and we will continue to stay on it to make sure that we create, provide a safe environment for the, community.

The same time, the same can be said about, the areas around our parking lot.

For this one. Crosswalks.

Montview is is owned and managed by the city of Aurora, Montview Boulevard. You know about that? However, we recognize the need for crosswalk improvement improvements throughout the entire road.

And, With the approval of the city of Aurora.

We install over five right for the instrument crosswalks.

They strung lights on crosswalks around the, along Montview and we maintain that, year round as well.

We have weekly traffic meetings is something that the Chief's allowed earlier in collaboration with the UC health Children's Hospitals,

FRA, the Seamless Redevelopment Authority, the CTA, Aurora, and the VA from time to time.

With contractors to discuss projects and any impact on traffic, and parking, etc. throughout the entire weekend.

We will continue to work on improving the overall aspect of our parking lots, taking our safety under consideration.

Greg.

This is just a few samples of the items I was discussing with you guys earlier.

It's also the crosswalks.

We have five of them throughout or along Mountview. We spend, over \$100,000, on all these units.

They are not cheap, as we all say. I said earlier, even though the road is not owned by the university.

We take safety under consideration.

And that's our goal, to make sure that the travels between our campus and north on Mount View is as safe as possible.

The other picture shows a sidewalk left just behind here along 19 Avenue, just north of the Pascal building.

That sidewalk was deteriorating not only because of the weather, but because of the chemicals, but also because of the chemicals that we use to remove, ice.

Icy conditions from from the sidewalk was deteriorating.

It was not about patching. And we had to do the entire removal of that concrete slab.

This picture was probably taken, a few weeks ago because this work was done early during this month.

So as the chief was speaking earlier. He went into great detail about how the campus police, the university police and all of the departments are here for you and how they ensure the general safety of the campus community from our facilities management and planning perspective.

Our job is to be invisible when you come to work, when you come to class.

You should not have to slog through knee high grass. The lights should come on.

The AC should work. The elevator should work for doing any type of a maintenance project or capital renewal or deferred maintenance project. It should be with minimal disruption to any business operation going on.

And should we happen to have an interruption? This is where the high level of customer service is needed.

Make sure that we are able to still allow the university to evolve towards the needs of the future, while addressing what is required for facilities maintenance like.

However, as we were going through all of these, considerations and understanding what's next?

We we began here's the feedback. This was before I even came here.

And Dell was telling me when my first days here about, man,

we have had a lot of engagement with the campus community regarding the need for lighting and lighting improvements.

And because he lived it, he just told me about it and I still have to speak to it.

So there you go. Thank you very.
First of all, how can we, receive campus input from, you know, lighting issues and concerns from the community?

Obviously, we would like for you guys to, go through our, online work order system.

If you identify any area that might need improvement or just call our dispatch, team at (303) 724-1777.

All this information is on our website.

We need input and engagement from the university students, or students group. We would like for, designated students or student groups to participate in our yearly walk.

This is something that's been happening already. other fact, the first.

What that we have was, result of the students approaching facilities, approaching university police, providing concerns about some areas throughout the entire campus, but they feel it was not that safe.

And that goes back to what I said earlier. Areas developing on the north side of Montview and where students were staying at this time.

Now, when they were commuting back on for lady the and the evenings were early in the morning and they were able to to express their concerns about these dark areas.

So our first lighting tour was in 2014.

Been ten years that we've been doing this now, doing this for the last ten years.

And it's been a wonderful partnership between all groups involved, including obviously students.

As I said before, firstly, police facilities management and other leaders from within the university.

The first thing that we did, Who?

When faced. This was a result of a study that was done by a by Clanton and Associates.

This a lighting, a engineering company that we hire to go throughout the entire campus and give us some feedback about how they feel about our campus, if their campus was well lit or, needed improvement.

We did not want to go and take decisions just by the eye and say, okay, this, something that looks like, let's do something about it.

That was not our intent.

Our intent was to bring professionals with the proper tools to identify areas that that needed improvement or not, they prioritized.

The areas and three ways.

The priority one was, potential conflict zones about dangerous zones.

The priority two was, difficult navigating through the entire campus.

And that's color coded there.

Priority three was additional lighting may enhance nightly experience, and the priority for the lighting was comfortable.

Which is on these greenish areas. The orange and red one was, the more of a dangerous zone.

And this was done in 2014 as I said.

By the end of 2015-16, we were able to improve all these areas that we highlighted in here in which they were a priority to the campus.

But we didn't finish there. We continue to do this every year.

Why? Because trees continue to grow. I created an obstacle to the light.

I will build more buildings, upgraded shapes as well.

So that's why we continue to do this every year, to continue to improve lighting throughout.

And as Dale indicated, it's been a partnership with many different divisions of the university.

I want to give a little bit of a shout out to Karl Johnson and Jane Gascoigne, who have been a part of every lightning tour that I've been a part of since they've been here, into our facilities team that shows up after hours and takes a personal interest on the lighting challenges that we're having, and then gets really aggressive in trying to solve them. So what are we looking at here?

Let's talk about a lighting standard. What you're looking at is essentially the path of the sun from sunrise to sunset.

How we generally think in terms of lighting and how we measure lighting.

There's a scientific term called Kelvin, which is the base unit of thermodynamic temperature, equal magnitude, two degrees Celsius.

The heck does that mean? It means think about it this way. The wider the light, the higher the Kelvin.

How's that easier?

So as a quick rule of thumb, we generally operate in the 3500 to 4500 Kelvin range for our campus lighting for both interior and exterior.

So this is part of where we began to find challenges, because we had all different color types of lights in some places, but standardizes as we come to a lighting standard and begin to address what is lighting pollution around campus or what is lighting pollution.

Think about spray of light that, the is your pole.

The light kind of goes over there and maybe it hits over here as we migrated to the LED platform.

Now we deal a lot more with cones of light and lighting that's a lot more targeted, and we have less lighting spray.

And we're also able to have a positive impact on this methodology that we use called Dark Skies and Dark Skies.

We don't want lighting. We want to have the right amount of light for the right application in the right location.

So this is how we've been migrating, as we've been addressing our exterior lighting challenges since we've been doing these lighting tours.

So, as we talk about Kelvin and we talk about bright light and white light, these are this is another way to reference and to have a better understanding of the type of light and colors that we'll see.

So as we have we're generally between 3500 and 4000 Kelvin.

We have a feel for what that looks like. And we we do that for a reason.

There's many studies. That speak to the fact when you start getting into higher levels of Kelvin.

4000 4500 and greater which using our sun that begins to get to the noontime sun that's very bright.

It can have an adverse effect on people that can have an adverse effect on climate, and can even have an adverse effect on animals.

So we have to be mindful of the lighting that we utilize as we migrate to campus during our lighting improvement.

So now let's talk about some of the lighting improvements that we've done.

I'm going to give you a snapshot over several slides that's going to help me out because he has been responsible.

I could not have asked for a better partner than the division with this park and transportation operation, collaborating with our facilities maintenance operation to figure out how we solve lighting challenges.

Of course, we have an amazing university architect by the name of Andre, who often tells us where to go.

Well. So is there that way?

So this is talk about simple lighting improvements. There's there's different types of lighting improvements.

There's the thing that you have, like a light is out on the building.

That would be your first one here. There's a light out on a loading dock that seems to be a simple repair.

The second bullet talks about, well, it's dark around the facility, so not only do we have to repair what's in the built environment, there's a lighting need.

Not enough light for a lighting challenge. No light at all.

How do we address that? So this is what we begin to work through as we identify these challenges as we do the lighting port.

Okay, so having said this, we.

Have begun to standardize on an LED. Platform again to address Dark Skies and any lighting pollution that we address.

And it can definitely impact as we go across campus. I'm going to tend to want to talk about the buildings, but, you know, tell us really strongly about thinking about those parking lots and the streets and the sidewalks and garages.

So a few people have. Thank you.

So I was talking earlier to you guys about the number of acres of land that we own on campus, just to be like around 223, I believe so.

And then we expand. We all know north of Montview now, but we have several acres of land up north of Montview.

And we found an opportunity to create an inexpensive and accessible parking lot on the other side of Montview that we call the Rock lot.

By doing that, we also created the need for a crosswalk as there was individuals, students, faculty, staff walking across you from the parking lot to from the rock lot to the main campus.

This specific picture is in the corner of, Montview and Racine, just next to the Wellness Center.

And, that was a challenge to go across that intersection, especially early in the morning when we had all the traffic come in to campus and in the afternoon when people were leaving the campus, and we asked the city of Aurora for permission to install this light over there.

And it was something that they were not willing to do that because of the location.

After several communication with them, they were able to give us the green light to do that installation.

We immediately put, that high efficient across for this one light in there.

But that was not enough. It was still dark.

So we added, even though that section is not ours that encroach into the city, we added an additional light pole in there.

We're looking at that intersection as well. Those are the things that we the partnership with the city of Aurora, we've been able to do.

Well, or along Montview. So as we find that we need to address lighting challenges, we often find complications to lighting challenges as well as those referencing.

Oh, let's do with Montview. We need to put in five crosswalks now that we have the crosswalks here.

Now are these corners lit for the crosswalks. So these are this is kind of sort of the quarterly effort that we have to do to identify the problem and then deal with the competition is behind the problem.

That's right, sir?

Well, it's not only about lighting, it's also about the surface of our parking lots.

We live in Colorado. Change of temperatures creates tons of cracks in our surface lots as well as our sidewalks as I said earlier today.

We need to stay on top of things, making sure that we fill these crack cracks once a year and patch any uneven surface that we have throughout our campus.

You might turn around and say to me, well, there's lots that might still need work on, and I agree with you.

I say, yes, and we are getting to each one of these lots.

Just last summer, we were able to complete, work on the asphalt parking lot, preschool parking lot, Durango, Purgatory. And this coming spring, we will return to that.

We stopped because of the weather. Our next up, project will be on the Evergreen parking lot.

We go to the dental school parking lot. And we're hoping to complete the entire process within a year, year and a half at the most. Obviously, everything depends on the availability, availability of the vendor as well as the fundings we all know.

And after COVID, everything spiked double three times.

What we used to do.

All this work was going to be done prior to, to COVID and obviously COVID to arrange on everything that we had in mind right after COVID, it was so difficult to find out a vendor that was willing to take the commitment to do all the work that we have here.

So, as there was mentioning the rock lot, this is the what we call the East Rock lot, which is kind of over that way and across Montview.

This picture is taken at four in the morning, and I want you to notice the lack of lighting pollution.

Notice the color differentiation of the vehicle that's in place and how well that light is lit.

The first time we went to this light, it was overgrown.

There was a lot of challenges, and I really appreciate the student groups that were with us at the time to really highlight these concerns for us, because we threw a lot of resources at this. In addition to not only upgrading the fixtures from Metal Hill II to an LCD platform, we doubled the number of fixtures that we put in there in addition to putting new poles.

And this is the outcome that you're looking at. So the East rock lot and over there, looks really good.

One of the over there, I mean, other issues that was brought up by the students, about a specific lot was the fact that there were some overgrown bushes and corners that were potential places for hide out?

And thanks to the students that were able to point that out to us, we mow those overgrown bushes and created more of a open visibility to the entire campus, for the entire lot as well.

So as we talk, as we talk about, I have a note here about the the work that we did along Henderson Drive as we talk about crime prevention through environmental design, we think in terms of designing lighting corridors, places where the university community, students, staff, faculty, anybody who has business with university has a path that makes sense, that is well illuminated and well traveled.

So we think in terms of lighting for us along Henderson Drive, we've made several, several, upgrades for this particular light.

For this particular location, we, added multiple polls in the area.

You'll see more about these as we go along. well, if you'd like to talk about your, front office, a locker.

Well, this is what we did here, we identified.

The lack of lighting on the sidewalk just south of the old Fisher House, now commander's house.

And with the collaboration of, Rick's group, the electricians, we added these little light poles here.

Although from from, Clinton all the way up to Racine.

That area was some areas that will also identify by the students in one of our work as well.

We doubled be upgraded the fixtures from metal halide to already double the number of fixtures.

And, so you have an idea of reference. This picture was taken at 3:30 in the morning.

It gives you an indication of how well illuminated it. Is that right?

This area that was on this block where we work was dark into the parking lot.

And so this is the enhancement that we may be able to, address these lighting.

West Rock lot, which is. Over that way, we put more work in.

A lot of work in the West, a lot. Here we've put we've installed a greater fixtures, we've installed poles.

And as we'll talk about later, we're going to do still more work there. as there's just a lot of challenges there.

But we have materials on order to make that a lot safer.

Everything should be here within six weeks. First, the very first memorial area.

This picture is from the Ignacio lot, with the library kind of on the right side by side.

And we've made improvements to the entire plaza area by upgrading all of those bollards, those knee level lights that walk around, upgrading all of those to an LED platform.

And we are getting met with our amazing campus architect to talk about a new project that we're going to do that's going to also bring additional light to the, Red Cross Memorial area by adding additional pedestrian lighting.

So this is just part of things that were identified, items of action that were identified from the campus, lighting tours, from working with students, faculty groups and what they see as challenges and how we've addressed those challenges.

We think in terms of an issue when we get together, we have a recommendation that often involves lighting engineer, a lot of consultant architect, our boss.

What do you think? And he's been tremendously supportive and innovative in funding and letting us go get after it.

So these are some of the improvements that we're able to enjoy at this point.

As we talk about lighting corridors, you have a feel for what we're talking about in that first picture.

That's a lighting corridor. And once again, these were areas that were identified in our walk.

The first picture is, the south end of the, Henderson garage and that area.

Also very that are not easy to navigate around that area.

I know we added four, twelve foot pedestrian lights to it that improve as you can see the overall lighting in that section.

And we also work on each one of the lights inside the Henderson garage.

So we have lighting now spilling out to improve, the surroundings of the, Henderson garage, even though we did work on the south end, we also identify the east entrance of the Henderson garage.

That needed some improvement, and we added, at least for now, it was three wall pack lights that spill into the sidewalk that is just east of the Henderson garage.

The other one, the other picture that we look at here is the Aspen parking lot.

Replace all the heads also with LEDs. As you can see the improvement here, the surface then loop.

That's what it is right now, because we mill and overlay the actual surface of that parking lot this past summer, eliminating any tripping hazards. What's there for years now because of the weather?

And again, notice this picture for the, in the middle.

That picture was taken at 4:30 in the morning to give an idea of the, there's one car in the parking lot. Whoever that person is, they should feel secure back and forth to the vehicle.

And I think that we've accomplish that goal. In the first picture, and the third picture, again, are the illustrations, what we would call lighting corridors.

The, third picture is one of our most recent jobs completed.

This is along the artwalk.

And this is as we approach, the Fitzsimmons building and as part of dealing with dark skies as a part of dealing with lighting pollution concerns, we don't do up lighting, which is have lighting the ground and it shines through the sky.

We go into the tree and we involve an arborist as we make our decisions about how to mount a light to the tree, to be mindful of the health, safety and security of the tree.

And we bring the light down to illuminate the area.

So along this art walk, as we approach Fitzsimmons, I think we we have either 8 or 9 trees done as, as a, as a way to illustrate what a lighting corridor should look like.

So, future improvements. We, you know, we've had a lot of a lot of lightning poor accomplishments done yet, from our most recent tour. These are some of the challenges that we're facing.

Some of the work that we still are working on as we speak.

Again, I just wanted to give big shout outs to our teams as they just don't quit.

Right here for the morning. They're out here, whatever it takes.

We're here for every single lightning tour to make sure that we are able to protect, prepare the campus community for whatever they need.

Doesn't matter the time of day, night or the weather condition.

So, one of the, issues that I'd also like to speak to is we we have, developed a little bit of a good communication with the city of Aurora.

We often find on lighting tours that we have street lights out in between Dell and his team and whoever they talk to over there.

We're having decent turnaround time and getting lighting, lighting fixtures repaired.

So that's some of the indications of some of the future improvements that we have.

But as we continue to move towards the future, how do we also quantify everything from the lens of sustainability?

So, we picked three projects to illustrate this.

So the first lot was the one one that was speaking in terms of the Henderson Garage and all that we did there.

So we were we upgraded the fixtures for 430 fixtures from a metal halide to an LED.

You see lumens here because think about the definition of lumens as see I would call that.

A measure of light, the amount of light emitted per second.

So that's what a luminous and an LED light. You've heard us talk about that a lot.

LED stands for light emitting diode.

So we go from metal halide fixture, which often loses its lighting ability to produce light at 50% after several years, to an LED platform, which rarely loses light and loses like 30% after ten years.

So we increase our lumens throughout life, increase the life and expectancy of the, of the, fixture.

Overall, increasing the amount of light available to make it to the ground.

So the fourth bullet talks are 16.3 metric tons of CO₂ avoided by just that project.

And that sustainability impact. I read a couple of extra figures for you.

The return on investment by just doing that project was less than a year and a half.

And the metric tonnes, saved is the greenhouse gas equivalent to 41,786 miles not driven by a gas vehicle or the greenhouse gas emissions avoided by diverting to the landfill versus going and, diverting to the recycling landfill rather than the waste landfill 5.6 times that one project.

The second project talks about all those parking lots, and that was referencing all those fixtures and all those upgrades and all of that.

Here are some equivalencies. Saving nine and a half metric tons of CO₂.

Some additional equivalencies. That's the, equivalent of 24,354 miles, not driven by a gas vehicle or 3.3 times.

Going to the little, recycling landfill, not the waste landfill.

So the last project is one that we were just completing, where we doubled the fixtures and put more poles into the lock, which is over there with some fishers and some of the equivalences that we have.

There is, to give you a different perspective here.

By the equivalency of carbon sequestered by doing this project is equal to the carbon saved in 1.2 acres of national forest.

But we're saving carbon dioxide. Just some equivalency so that you know that as we do our work, as we look to move our, campus forward, we always have an eye towards sustainability, and we're always going to look to try and find a way to quantify the work that we're doing.

So, that's most of what I have to say here.

Jay, would you like to wrap this up, please? Certainly. All right, big round of applause for the three presenters.

Thank you so much. All right.

I would be remiss to not mention I know, I know the sustainability piece that they talked to.

They save that for the last for a reason. It's the cool thing to talk about and, you know, talking about lighting.

People are probably falling asleep, but, I mean, you put it into sustainable sustainability aspect.

It kind of brings it home. and we're doing some really wonderful things on campus sustainability.

So I would invite everybody to come back in April for this very talk, which is going to be focused strictly on sustainability efforts around campus.

So, finally going back to the campus access control that chief was talking about,

I'd also be remiss to say that, you'd noticed a lot of signs going up around campus, at the entrances and at card readers about do not tailgate and do not, you know, try to swipe your badge every time you come in.

There's a reason that we're asking to do that.

So when we went into kind of the the new, method that we're using now, kind of more of a secured access, kind of a locked down environment when COVID happened, we lost the ability when we went remote and then came back again.

We lost the ability to really, see how many people were coming to campus and keep track of the utilization, the buildings and the classrooms.

We're not tracking people's movements. I promise you that.

It really is meant to give us an idea of how efficiently we're using our buildings, how much foot traffic we're getting into our our campus and our buildings because we have to report out on space utilization.

And things in the Regents are often asking us about, does a remote work going, how often are you offices being utilized?

And there's no way for us to tell that without knowing who swipes into the buildings there.

Just a quick plug for that as well. And, I will open up for questions at this point.

It's good. Along my view, the lights here.

And the funny thing is, that's actually the city of Aurora Street.

And those technically are City of Aurora's responsibility, but they are not responsive to our requests and our continued pursuits of improvements.

So we just said we're going to do it ourselves. Yep.

So the question is how do we work with the hospitals? Specifically the area around A01 and UC health over there.

Del, you are the man that works on all that stuff.

Yes. as I said earlier.

First of all, I want to thank you, all of you guys, because with your collaboration is how are we going to be able to improve, ladies, having, your team, students, faculty, staff recognizing, these areas, bringing that up to, to us with our facilities group, either through work orders or through, the phone call.

I'm going to be able to we're going to be able to identify who's actually responsible for that specific area.

And we do have that weekly meeting with all the institutions and these sort of things that we bring up during that time, and we'll bring it up to whoever is responsible for that specific area.

So if you're telling me that there's areas within A01, leading tour, the, health science, the, usage building, this will be something that I will personally will inspect, make sure that is what areas or responsibilities lie with clean facilities.

And I will bring up also to University Hospital the areas that will be under their responsibility.

I will, I will definitely do that. Absolutely.

That's how it work, because some areas also belong to the city of Aurora.

And we all think that facilities, you know, he's on are responsible for anything.

As long as you report that to us, we're able to identify the actual owner and we work with them until things are fixed.

We keep on bringing that every Monday, every Tuesday. So not meetings until get things until things get fixed.

Okay, how about online? Are there any questions from the folks that are online?

No. All right. Any more in the room? All right.

Well, thank you very much. We appreciate the time and attention.