CASE STUDY

Developing Phoenix I-VII

How Stream Data Centers and the City of Goodyear Delivered a Win-Win-Win

STREAM DATA CENTERS

> "Behind every successful data center lies a powerful community story waiting to be told."
>
> –JLL

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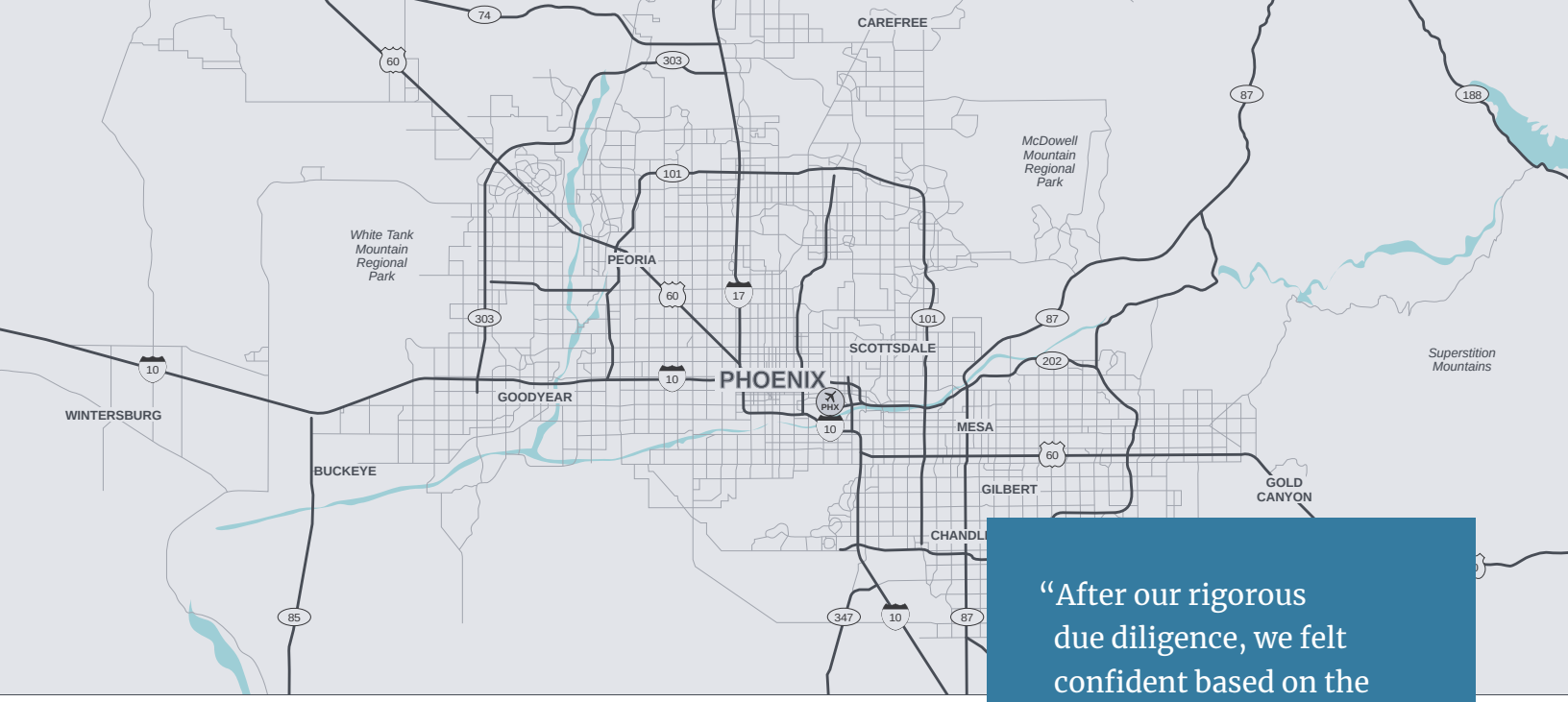
1. Introduction

Developing a billion-dollar building of any kind is a huge feat. When that building is a data center, the feat is intensified by the unprecedented scale and pace of demand for capacity. Tough challenges include getting access to utility power and getting permits Developing a billion-dollar building of any kind is a huge feat. When that building is a data center, the feat is intensified by the unprecedented scale and pace of demand for capacity. Tough challenges include getting access to utility power and getting permits from the local authority having jurisdiction (AHJ) — and doing it in markets where competition is fierce and timelines are tight.

Some developers take a brute force approach to overcoming those challenges. But with concerns about development in many communities, that approach can easily backfire. In contrast, Stream believes in being good neighbors in the communities where we develop. We do it because it's right. But we also take this approach because it smooths power and permitting challenges, speeding time to capacity for our customers.

Just as different developers have different approaches, so do communities. Some have taken a firm stance against new data center development. In contrast, there are also many communities that have recognized the benefits good data center development can provide for the community and support development of this vital digital infrastructure that sits at the foundation of just about every aspect of modern life.

This story is about one of those communities — Goodyear, Arizona — and how Stream Data Centers and the city worked together to ensure wins for the community, for Stream, and for our customers. With actionable best practices, this story is written for community stakeholders, including utilities and AHJs, who want to learn how other communities are creating win-wins. Data center customers and industry partners can also dig into this story to learn how we're able to develop massive scale efficiently while bringing value to the community.



> "After our rigorous due diligence, we felt confident based on the zoning overlay, the previous uses of the site, and the neighboring uses, that data center development was going to be a fit for this site."
>
> – Oisín Ó Murchú
> Senior Vice President, Development at Stream Data Centers

2. Best Practice: Site Selection to Ensure Goodness of Fit

Mutually beneficial development is founded on meticulous site selection. So, we take our location strategy work very seriously. Our comprehensive, sophisticated site vetting process ensures a 'goodness of fit' upfront — which means alignment between our customers' needs and the community's needs.

That's evident in Goodyear, Arizona, where Stream is developing a 157-acre data center campus that at full build will support up to 280 MW of critical load across more than two million square feet of data center space.

Location strategy at Stream Data Centers

We start the location strategy process at a high level, ensuring the land is unencumbered and development impacts on the local environment can be mitigated. We avoid locations where rezoning for data centers doesn't make sense (e.g., too close to residences or where environmental constraints exist).

With a "short list" of sites that suit those requirements (which might actually be 100 or more in a large market), we dive into more granular detail. Our Location Feasibility Assessment contains nearly 200 location success factors, some of which are consistent across customers — for example, access to reliable high-voltage power infrastructure, acreage to enable scalable growth, etc. Others are more dependent on particular customer requirements, such as proximity to existing sites or networking nodes.

We use a proprietary GIS tool to expedite our thorough desktop diligence processes, and we spend a lot of time in the field with our local utility and municipality partners, conducting comprehensive visual and acoustic modelling to understand any potential impact of the data center on the community.

Goodness of fit in Goodyear

Of our ~200 location success factors, zoning is one of the most important, because it tells us whether data center development is in line with the community's plan for the area. We look for locations where the zoning is appropriate, or rezoning is either aligned with the property's characteristics or in line with the local community's concept plan.

The Goodyear site was zoned industrial and surrounded by industrial development. The initial 20-acre site had actually been a solar panel manufacturing facility, which gave us the opportunity to deliver value to the community by resurrecting development that had stalled. The additional 137 acres had also already been identified by the city for industrial development.

Brownfield redevelopment

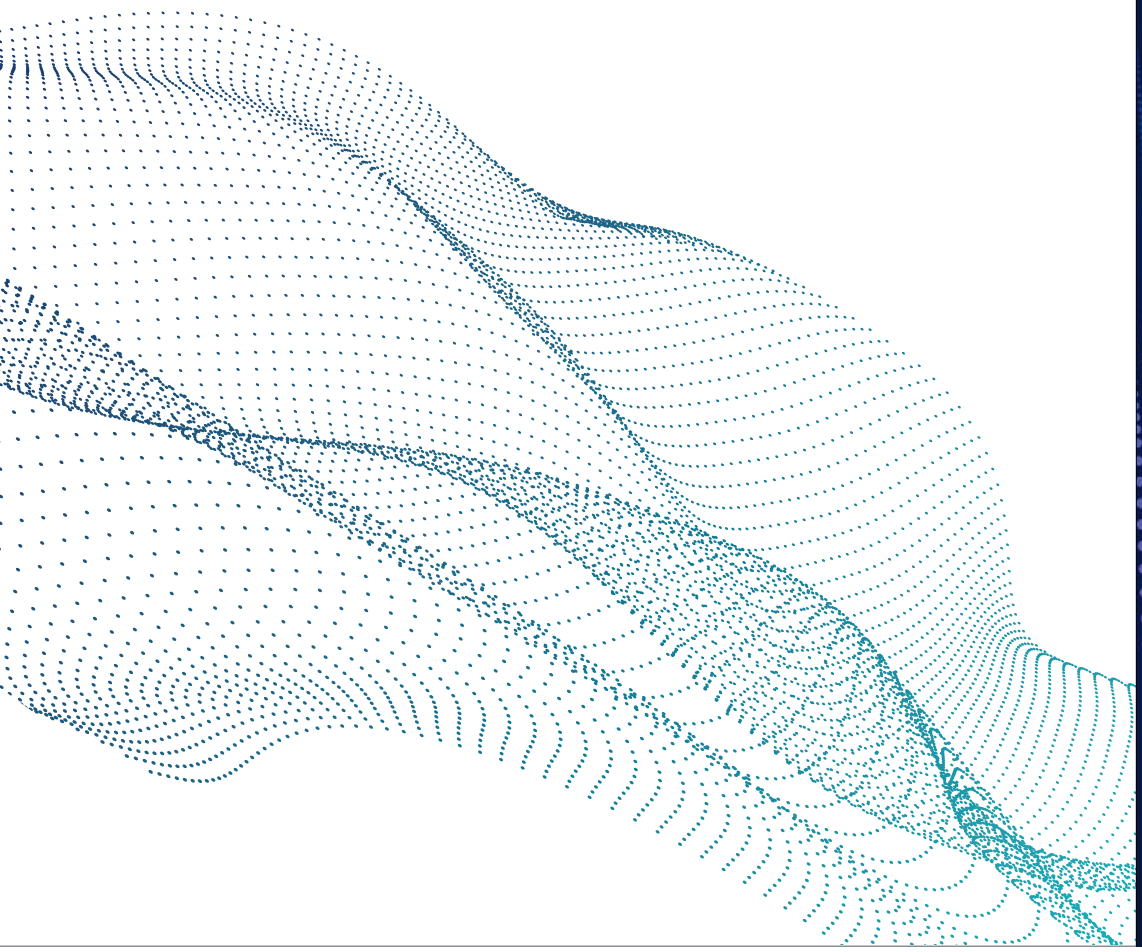
Our redevelopment of the solar panel manufacturing facility is a good example of an approach we often pursue in markets where the supply of suitable sites is constrained. It's reflective of our commitment to win-win-win outcomes, allowing us to create value from an otherwise stagnant parcel of land, and engage in construction projects that drive a lot of economic stimulus for the community and support our collective digital economy.

"I think it's phenomenal that Stream had the foresight to take an existing building and transform it into a data center—something that hadn't been done before in Goodyear. Their investment to upgrade the facility brings significant benefits to the community, and on top of that, their purchase of additional acreage for a seven-building campus is something we're really excited about."

– Robert Ito
Business Development Manager, City of Goodyear

"We're leading with active, participative, good-neighbor values while prepping the space needed to support local, regional, and national digital business necessities."

– Mike Lebow
Senior Vice President, Location Strategy & Development at Stream Data Centers



3. Best Practice: A Tailored Approach to Community Engagement

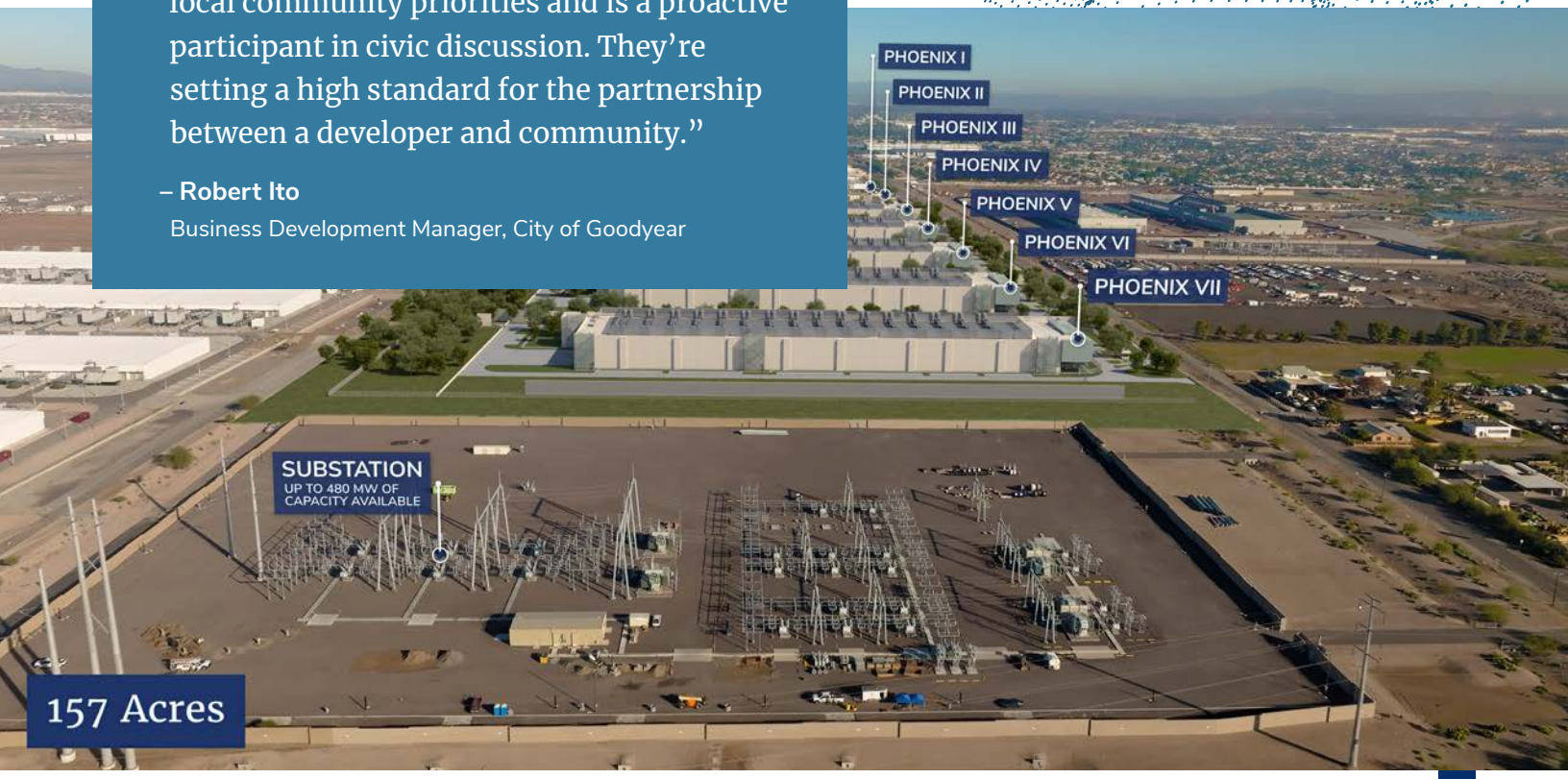
> "Investing time getting to know a community on an individual level is not a deal sweetener, it's a necessity. There is no one-size-fits-all engagement approach. The question isn't just 'What can we add?' but 'What can we add that will be meaningful for *this* community?' To answer that question, we must ask, not assume."
>
> – **Mike Lebow**
> Senior Vice President, Location Strategy & Development at Stream Data Centers

3.1 Meet the neighbors and address their concerns

One key part of responsible development is sitting down with community members to put faces to the Stream name, and to offer transparent information on the data center development. Most people aren't familiar with data centers, and there are some misconceptions that can create concerns for people who have not seen a data center developed or lived beside one.

When we lift the veil on the unknown — helping people see how quiet and clean the data center is compared to other industrial facilities, for example — people tend to become much more comfortable. In some of our recent Goodyear community meetings, in fact, neighbors have voiced their support for the data center over other types of industrial use.

> "Stream has taken the time to understand the local community priorities and is a proactive participant in civic discussion. They're setting a high standard for the partnership between a developer and community."
>
> – **Robert Ito**
> Business Development Manager, City of Goodyear



Community concerns

Supporting the power grid

One area where there are often misconceptions is about the impact of data centers on the power grid. In most markets, data centers pay their own way in terms of infrastructure upgrades and additional capacity brought online. Not only do they pay their way, but they also provide a stable source of revenue for the utility. Stream has paid a significant amount of the utility bill to fund our Goodyear development, including power generation, which benefits the whole community.

As JLL notes, "Utilities continue to shift the economic burden for [power infrastructure] upgrades to the data center providers by driving initiatives to ensure that rate payers are not negatively affected."

Reducing noise

We work hard to ensure that we are not noisy neighbors. We conduct studies on our properties to ensure that we're compliant with the noise limits at the property boundaries. Through those noise studies, we also identify portions of the development that may need screening or noise mitigation. For example, our generators are housed within noise attenuation enclosures to make sure that noise doesn't propagate beyond the property boundary.

Water conservation

Data centers' water use is quite understandably a significant concern for communities in Arizona. However, while many people assume that every data center is a water guzzler, that's not always true.

At Stream, since our founding, we have only used evaporative cooling if it is deemed sustainable based on the location. Evaporative cooling is not sustainable in Metro Phoenix, so our design uses air-cooled chillers with a closed-loop water system. That closed loop gets filled once and then doesn't need additional water, making it a highly efficient choice with very minimal impact on water resources. (Typical daily water use is similar to or less than an office building of equivalent size.)

Visual aesthetics

Aesthetics are a significant factor when communities are considering the types of development they want in their backyard. At Stream, we have always emphasized the visual impact of our developments on the community. Data centers don't have to be monolithic, windowless boxes. Our goal is to build a data center that makes the community proud.

> "As a city, we have high design standards. We want every building—including data centers—to be something the community can take pride in. We especially appreciate the glass elements Stream incorporated in the retrofitted building and the new buildings currently in development."
>
> **– Robert Ito**
> Business Development Manager, City of Goodyear

"From construction through operations, Stream is committed to making a positive impact on the communities that we are located in."

– Jordan Gilles
Director of Campus Construction, Stream Data Centers

4. Best Practice: Creating Benefits for the Community

"Stream is not just building a data center campus; they're creating positive impact for the community. From tax revenue to job creative, Stream supports sustainable economic growth in Goodyear. Their engagement demonstrates how a developer can be a great neighbor while driving industry-leading growth."

– Robert Ito
Business Development Manager, City of Goodyear

4.1 Benefit: Tax revenue

Data centers deliver positive tax benefits. These large developments require billions in capital investment, representing significant construction-related revenue and added long-term tax income for communities. This is why many regions actively seek critical infrastructure developments and the workforce development opportunities, high-paying jobs and other programs that conscientious developers and tenants cultivate as part of these developments.

In 2023, data center developments in Metro Phoenix **generated $863 million in state and local tax revenues**, according to JLL.

4.2 Benefit: Jobs

One of the benefits that is often missed is the construction jobs associated with development of a campus as large as Stream's. Our Goodyear campus will eventually have seven buildings. Each takes about two years to build, so with some overlap, the campus will be under construction for 10-12 years, with 500-2,000 people on site every day. In addition to the jobs benefit for individuals, there are peripheral benefits for local skilled craft labor and construction-related businesses. With predictable revenue, they can invest in upskilling and marketing themselves to other data center developers; this industry is a huge opportunity for growth.

In addition to the direct employment benefits of a data center, there are indirect benefits as well. According to JLL, in 2023 data centers in Arizona created 14,430 direct jobs and supported over 81,000 total jobs.

4.3 Benefit: Infrastructure upgrades

Beyond the benefits that typically flow from data center development (e.g., tax revenue and jobs) Stream and the City of Goodyear worked collaboratively to ensure other tailored, community-specific benefits as well, including key infrastructure upgrades that had long been on the city's wish list.

Sewer infrastructure

Originally, the sewer was to be on the east side of Stream's development. At Goodyear's request, our team completed a redesign and relocated the sewer to the western boundary. That allowed the city to redirect flows through our property, which solved several challenges they were facing. It also allowed our neighbor (another data center) to redirect flows and vacate right of ways — effectively opening up additional acreage for development. This is a prime example of how we work with the city to take on scope that benefits them, benefits our customers and also benefits our neighbors.

Transportation infrastructure

Also at Goodyear's request, Stream completed upgrades to the thoroughfare on our east side. We were able to annex Litchfield Road into Goodyear, addressing some issues the city had faced with the county and with the neighboring city.

Power infrastructure

JLL notes, “Data centers fund infrastructure upgrades that ultimately benefit local residents, strengthening electrical grids, improving reliability and accelerating the development of renewable energy resources.”[1]

The on-site substation Stream built actually provides a through-flow path to our neighbor, which then is networked back into the utility grid in this area. The substation does supply power directly to us, of course, but by also providing a through-flow path to neighboring developments, it’s another great example of Stream taking on scope that benefits not only us but our neighbors as well.

4.4 Benefit: Ecosystem development

“When data centers establish operations in a region, they create a gravitational pull for supporting businesses…These clusters of businesses attract skilled talent and revitalize previously underutilized areas.”[2]

The ecosystem benefits of data center development include upgrades to digital infrastructure. “Phoenix is an example where technology access has visibly improved. Non-locals are often surprised by advanced technologies they encounter such as driverless cars. These technological developments are only possible because of the strong network infrastructure that data centers help support.”[3] With the help of this digital infrastructure, communities can flourish in stride with our collective technological growth, and businesses and individuals can be equipped with new high-value tools and opportunities.

[1,2,3] JLL, How Data Centers Transform and Engage with Local Communities

> “Stream’s presence strengthens infrastructure, attracts talent, and has helped to revitalize the area.”
>
> **– Robert Ito**
> Business Development Manager, City of Goodyear

5. Best Practice: Collaborate

Stream's vision is to invest in and empower great people to collaborate with our customers and communities to develop and operate safe, secure, reliable and sustainable data centers.

"Collaboration is really the best way to describe it. We're not coming in and dictating that we need things to be a certain way. Our goal is to be a member of the community and a good partner to the city and our neighbors."

– Eric Closson
Data Center Design Manager at Stream Data Centers

5.1 Develop and nurture personal relationships

A common challenge in development is a lack of understanding between the developer and the authority having jurisdiction (AHJ), which causes delays and rework on both sides. At Stream, collaboration and participative (not prescriptive) approaches to projects are at the heart of who we are, so we nurtured personal relationships within the City of Goodyear. We got to know our partners as people, which enabled open and honest conversations.

Goodyear's development services team has been very transparent about what their inspectors expect and how they want our drawings to look. Having that open and transparent communication allows Stream to effectively fine-tune our responses to what the city is looking for.

"When we have personal relationships with one another, trust is built, and there's more transparency as to what's happening. So, when a change needs to be made, the reason for the change is clear and the teams can work together to process it more effectively."

– Oisín Ó Murchú
Senior Vice President, Development at Stream Data Centers

"Being nice is one of Stream's core values, and the folks at the City of Goodyear are really nice people as well. So, when we encounter an issue in the permitting process that we don't understand, it's been really easy for both sides to get on the phone and talk to a nice person who wants to help. They want to make sure we're doing the right thing. Competency matters, too of course, and they're experts in their field who know how to direct us in the right way."

– Jordan Gilles
Director of Campus Construction, Stream Data Centers

Align on motivations

Having strong personal relationships makes it easier to align on motivations — which is a critical prerequisite to collaboration. Every player in the data center industry is dealing with demand that is unprecedented in both scale and pace. Goodyear has experienced massive growth in data center development over the last five years, and Stream is growing incredibly rapidly. There is a mutual understanding of those opportunities and challenges and recognition that we're all working toward the same goal.

Understand why

With strong personal relationships and alignment on motivations, it's easier to understand the rationale behind why one party wants something done in a particular way. Compared to a more traditional approach to development — submit, review, receive, revise — close collaboration and communication throughout the process is much more efficient.

> "We're all working together with the same goals in mind of successful partnership and develop in Goodyear."
>
> **– Eric Closson**
> Data Center Design Manager at Stream Data Centers

> "One of the things that's been really helpful with Goodyear is that they're always willing to explain why they had a particular comment or wanted a particular change. They're willing to engage with us and help us understand the purpose of the change do the next time we send a plan set over, it addresses their end goal—not just that we updated the note to comply, but that we caught the spirit of what they were asking for."
>
> **– Jordan Gilles**
> Director of Campus Construction, Stream Data Centers

5.2 Communicate openly, frequently and proactively

The more we engage upfront, the better able we are to ensure no surprises — for the community, for the city, and for any of our other stakeholders on the project. Our goal is always to keep everyone apprised of what we're planning to do so that when it happens, they're already expecting it.

We host our Goodyear partners at the site for relationship building sessions. We get to know them as people and what stresses they're dealing with. We get to know their motivations. We get to know how we can help them review our drawings or help them know what's coming so that they can plan their workload appropriately. We want to avoid high-stress situations where we're chasing a deadline and there's too much work on their side. At Stream, we believe these items form the foundation of a strong, efficient, and effective project.

> "Successful development is absolutely relationship driven. And a part of good relationships is communication. If there's even a small issue, or a small update, we're on the phone with the city. That's critical."
>
> **– Jorge Garcia**
> Vice President/Founder of AP Dev Solutions, consultant to Stream Data Centers

When we frequently communicate about priorities and timeframes, it's easy to get on the same page about the right path forward. That way, when we submit a formal response, it really is a formality. The city can process it quickly because they know what's coming and have collaborated on it with us.

That is a stark contrast to the typical development process, which often involves months-long comment and response cycles.

Effective communication is proactive, not reactive. We don't want to be chasing the schedule. So, for example, when we had to relocate offsite infrastructure, we knew it would impact our Certificate of Occupancy (CofO) requirement. We proactively worked with the city months in advance to plan for a Temporary Certificate of Occupancy (TCO). This proactive approach has eased stress for the city and is one reason we're able to deliver speed to capacity for our customers.

5.3 Manage workloads by priority

"When I joined the project, we had close to a dozen permits in process. At any given time, our priorities might be dictated by lead times for equipment or tenant requirements or the city's own priorities. We were very transparent with the city in communicating our need-by dates, and the city was very receptive to prioritizing review on specific items to meet those dates, because we were receptive to the city putting other items on the back burner. In that way we were able to accomplish everything we needed to in the time frames required to meet overall project schedules."

– Eric Closson
Data Center Design Manager at Stream Data Centers

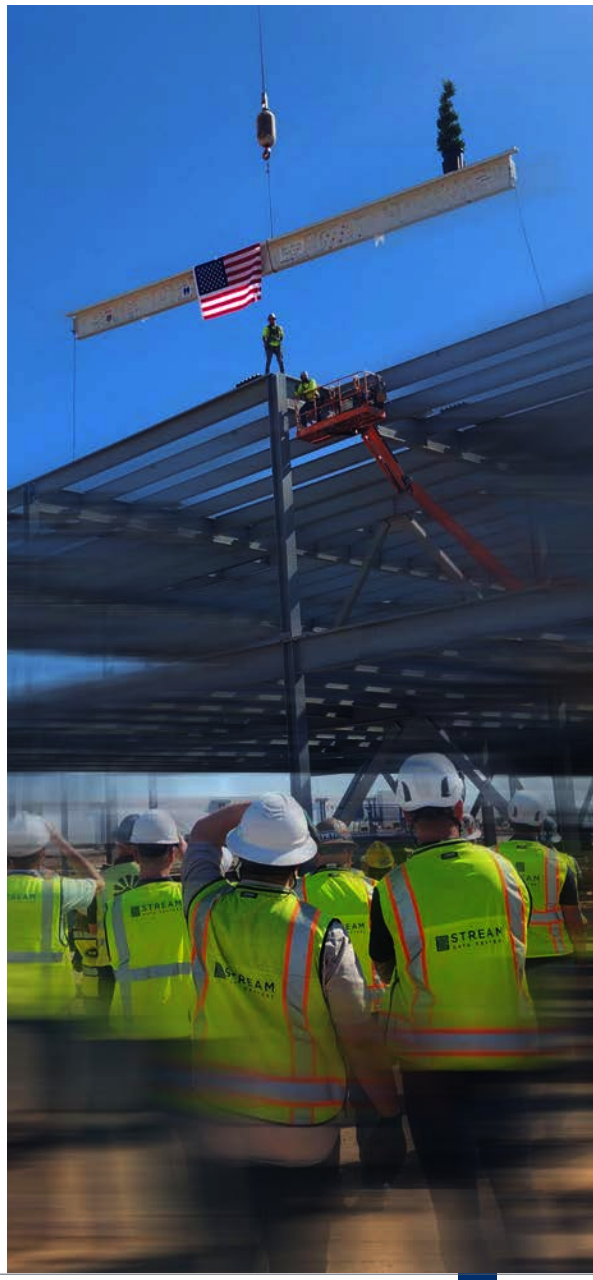
5.4 Give and take

Stream has a standard design that we work to deploy on campuses across the country. Frequently, we have to adjust the design for the particular location. We worked with the City of Goodyear to update our site master plan to ensure we're meeting all the zoning requirements and other community needs. That site master plan sets the guidelines for development of each building on the campus. For example, as our standard product changed, we updated our master plan for a seventh building on the campus.

Updates are a collaborative process. We start with what we've previously submitted and what the city liked about it (or not). We take the feedback we've gained through involvement with the city over the years and ensure it is incorporated in the updates.

"We understand that data center developers must accommodate their tenants' requirements. For instance, a tenant might request moving equipment in a way that affects a building's footprint, which in turn changes the design. Stream and Goodyear have collaborated very effectively in these situations. We work together to strike a balance, staying flexible with updates to the master site plan as each building is developed. We're also proactively seeking more efficient ways to address challenges because, with the AI boom, demand for data center capacity continues to grow, and we know speed is essential for developers."

– Robert Ito
Business Development Manager, City of Goodyear



Speed: The payoff of relationship building and trust

"The city was a great partner with us as we updated the master plan concurrently with the submission of the Building III permit documents. Typically the city likes to review the master plan and have an approval in place prior to submission of the next building, but because they were comfortable with what we were going to be presenting—based on the partnership and trust that we've built with them over the years—the city was willing to concurrently review those documents. That saved us quite a bit of time in the permitting process for Building III."

– Eric Closson
Data Center Design Manager at Stream Data Centers

5.5 Make it even better next time

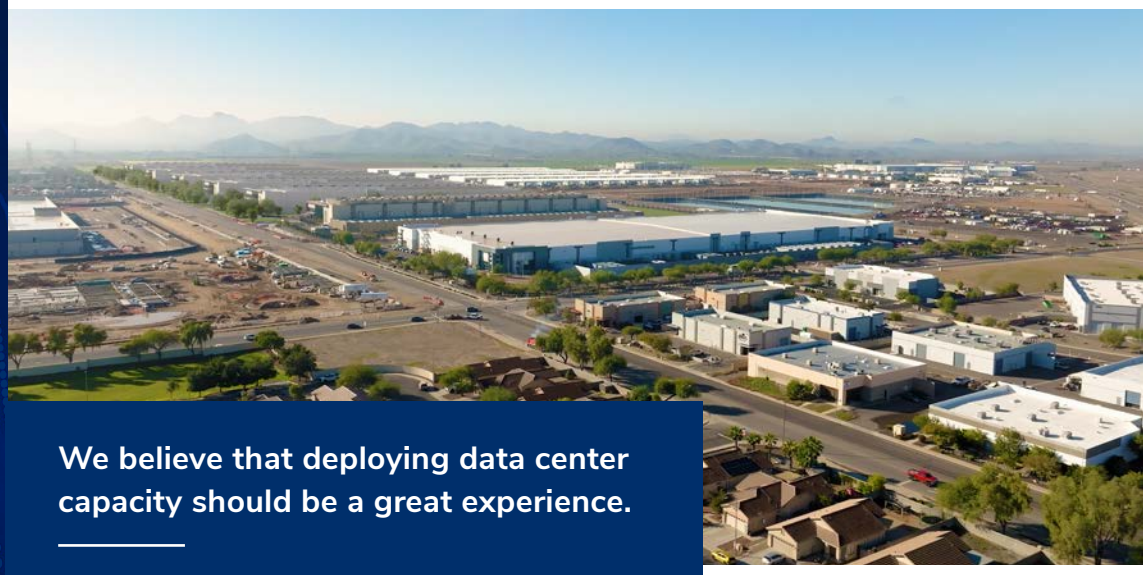
"Something I've really enjoyed about working with Goodyear is the mutual willingness to sit down and talk about what Stream and the city can do better. We're going to be building together for a long time. So, we talk about lessons learned. We adjust our designs so that our first submission is the right submission. The result: the building we just permitted (Building III) was done in less than half the time of the first one."

– Jordan Gilles
Director of Campus Construction, Stream Data Centers

6. Conclusion

When a developer has a location strategy focused on ensuring goodness of fit and a tailored approach to community engagement, development can benefit the community in many ways — tax revenue and jobs as well as infrastructure upgrades and ecosystem growth. Furthermore, when the developer and the city are committed to collaboration — to developing and nurturing personal relationships; communicating openly, frequently, and proactively; managing workloads by priority; giving and taking; and continuous improvement — the payoff is less stress and more fun for the city and the developer and speed to capacity for the customer.

A win-win-win.



We believe that deploying data center capacity should be a great experience.

streamdatacenters.com