

A&E PERSPECTIVES



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ARCHITECTS ARE THE QB; MEET THE REST OF THE TEAM

Architects might get all the credit, but they can't do the job without a team of consultants.

Architects seem to get all the credit when it comes to the design of a building. The truth is, an architect leads a team of 20 or more essential design consultants that get little recognition for their important work.

Architect as QB

As "prime" designer, the architect is the quarterback of a project, leading and coordinating the work of all consultants into a cohesive set of construction documents. A football analogy is appropriate here: While the Russell Wilsons of the world get most of the credit, they could not do their job effectively without the Kam Chancellors and the Jimmy Grams. Architecture requires a real team effort.



BY BLAINE WEBER
WEBER THOMPSON

Here's a list of typical team members and how they contribute:

Land-use attorney

A land-use attorney reviews title and environmental reports to flush out issues that could

constrain development or add risk or hidden costs downstream. They help navigate the treacherous political waters of entitlement, smoothing the way to approvals.

Surveyor

A Surveyor establishes the location of boundaries, easements, encroachments and existing conditions. They also locate and describe right of way, utilities, topography and geographic challenges.

Geotechnical

Based on core drilling and historical analysis, a geotechnical engineer determines soil bearing capacity, the presence of water, or conditions that will create lateral surcharge.

Environmental

Environmental consultants ascertain the presence of contaminated or hazardous materials or soil; then recommend remediation processes or abatement in compliance with applicable laws.

Civil

A civil engineer focuses on work required at or below the ground plane, including street improvement of rights of way, utilities, and the interface between the private and public realm.

Structural/shoring

The structural engineer is the architect's "wing-man" and the team's most vital consultant. Based on geotechnical recommendations relative to bearing capacity and anticipated ground motion, the structural engineer designs a foundation and a structural frame that will resist anticipated lateral loads (from wind and earthquake) and vertical loads (from building materials and future occupants).

A specialized structural engineer designs the shoring system which protects adjacent property during construction.

Building envelope

Keeping wind and water out, and minimizing condensation, are the building envelope consultant's primary goals. These consultants review all exterior elements of a project, including walls, roof, decks, terraces, material juxtapositions (where disparate elements come together), as well as the sub-grade structure.

Energy

The energy consultant calculates a building's heat loss and thermal performance in an effort to comply with strict energy codes. They also guide the architect in selecting appropriate envelope materials, based on thermal performance criteria.

Sustainability

The sustainability consultant is a strategic partner, helping the owner and architect make the most of their program, site, budget and design to create a project with a minimal environmental footprint. They advise on best practices and products on both the exterior and interior design, and help navigate the complex sustainability certification process.

Vertical transportation

Vertical transportation is all about getting building occupants up and down efficiently, via elevators and escalators. These consultants also help the architect ensure that core design will support the appropriate elevator system.

Acoustical

The acoustical engineer's focus is sound attenuation and "quiet enjoyment" — not just at the walls and ceilings (between various uses) but also the mechanical equipment, and even the sound generated by elevators.

Mechanical/electrical/plumbing/fire protection

Second in importance only to the structural engineer, MEP engineers design the backbone infrastructure to ensure lighting, power, temperature control,

ventilation, water supply/waste, fire protection and smoke evacuation meet codes and provide good long-term life safety and performance.

ADA

The American Disabilities Act represents ever-changing federal civil rights legislation that is subject to discretionary interpretation. ADA consultants help to ensure compliance of barrier-free access and to avoid fines from the Department of Justice.

Landscape architect

Landscape architects design spaces and places that connect the exterior and interior — whether on the street level or 40th floor. They focus on both hardscape (seating, planters, fireplaces, water features) and plantings that soften the hard edges of a building.

Interior design

A sophisticated interior designer is much more than someone who selects finishes and paint colors. When engaged early in a project, they help with thoughtful space planning, interior place making, and collaborative selection of fixtures, finishes, furnishings and art.

THE TEAM — PAGE 7

GROUP POLISHES GUIDELINES FOR DESIGN-BUILD PROJECTS

Public owners, contractors and designers are working together to improve alternative project delivery.

Design-build project delivery is a subject of considerable debate among Washington state's public owners, contractors, architects and engineers.



BY WALTER
SCHACHT
SCHACHT ASLANI
ARCHITECTS

A year ago, architect Steve McNutt published an article in the DJC's annual A&E Perspectives calling for reform. At the same time, I was organizing an effort as the architects' representative to the Capital Projects Advisory Review Board (CPARB) to reach out to our state's design professionals to understand the impact of alternative project delivery on practice. Design-build proved to be the focal point of their concerns.

The good news is that those apprehensions have been heard and a response is in the works. CPARB established a design-build best practices committee last February. The committee's work should result in a manual of best practices that will be available next year to public owners, contractors, architects and engineers.

The Architects & Engineers Legislative Council helped conduct the initial outreach by forming a committee that was co-chaired by Van Collins, CEO of the Associated Council of Engineering Companies Washington, and Jeffrey Hamlett, executive director of AIA Washington Council. Sixteen architects and engineers from across the state participated.

I delivered the committee's report to CPARB in April. The report identified some of the impacts of design-build on the role of architects and engineers,

such as how the design professional's primary contractual relationship shifts from the owner to the design-builder, and how the scope of professional services is modified from the level of engagement with the end user to the administration of the contract for construction.

The report identified some of the challenges with design-build delivery, with the cost of competing for a project as a significant concern for architects and engineers.

Other issues included:

- In the case of a best value selection, the risk is high relative to the potential reward.
- Stipends do not typically cover the cost of the design services.
- The program, scope and budget are not always adequately defined to allow teams to compete effectively during the RFP phase.
- Previous experience is a

typical selection criterion, but a limited number of architects, engineers and contractors have experience as individuals or as teams in this emerging procurement type.

• Small businesses that are otherwise qualified to provide design services may not be able to compete due to the risks and costs.

The report concluded by recommending that CPARB establish a committee to consider ways to improve outcomes for design-build project delivery.

In April CPARB's design-build best practices committee started to meet monthly with the goal of drafting guidelines that coordinate with the state's existing regulations and improve outcomes for owners, contractors and consultants. Olivia Yang, associate vice president for facilities services at WSU, and I serve as co-chairs for a group that

includes representatives from all sectors.

CPARB appointed 14 official committee members, but the meetings are open to the public and many others are participating in the discussion. Information about the committee is available at: <http://tinyurl.com/CPARB-DBC>

The conversations have been spirited and fruitful. It was immediately apparent that we lacked a set of commonly understood definitions for the many forms of design-build procurement: design competition, best-value, progressive and bridging.

Once we worked our way through those issues, our focus turned to the pre-contract award phases of the process, which include team selection and present some of the greatest challenges.

Our discussions, which con-

DESIGN-BUILD — PAGE 7

A STEP-BY-STEP GUIDE TO SELECTING A VIRTUAL DESIGN PARTNER

Most design and construction firms use BIM; just make sure they use it efficiently.

Getting the most from building information modeling/virtual design and construction (BIM/VDC) is like learning anything — be it playing guitar or baking bread. We can read, watch videos and try things, but it isn't until we find the right partner to help us through the process that we can attain the best outcome.



BY LANA GOCHENAUER
LEASE CRUTCHER
LEWIS

Having knowledgeable and experienced partners is the key to every success. For example, when owners are interviewing contractors they often ask "Do you use BIM?" Most design and construction firms do, but do they use it efficiently and partner effectively with the rest of the team to realize the full value of the technology?

Here are some things to watch for:

Ask pointed questions. How does your prospective partner use modeling software? What limitations have they seen and what makes their process more

efficient and lean than others? What new ideas do they bring? Can they document how they use the model to interface with all project team members?

You may have questions about BIM/VDC processes or whether something you saw is even possible, so ask! In any good partnership it's important to feel comfortable asking questions and feel comfortable with the answers. Probing questions are the means to getting there.

Check references. During any selection process, checking references is standard.

Ask if the BIM/VDC examples show how modeling was used and if it produced savings. For example, with early modeling and coordination with the design team on a recent job we isolated a problem with the shoring. Further exploration showed that the initial concept and certain proposed solutions were not possible due to the site.

The full picture with the model facilitated team collaboration and a holistic solution. The old way was to find the problem in the field, stop work, issue an RFI with a suggested solution, and then finalize the decision. Work stoppages cost money and time, and require rethinking work sequences and safety plans.

Solving the issue at the modeling stage saves time and money. We estimated the cost savings in this case to be \$10,000 in hard dollars and much more in indirect expenses.

Pretty picture or working model. A beautiful picture can make great impression, but the real question is "Is the model an actual money-saving end product?" Will that basic model gain detail and become the basis of buyout and construction, informing installers so the finished product is installed properly, safely and efficiently? Does it address the phasing or how the site is going to be used? Are potential issues identified that might have been missed with the traditional 2D method? Is the model used to help with the construction budget and to inform both clarifications and omissions?

All of these tasks are made more robust and clear, and build

confidence in the team.

Identify the barriers. With VDC there are often challenges with existing contract language limiting the ability of firms to work seamlessly together. The industry is at best finding piecemeal workarounds. It is invaluable to find a partner that will help create a collaborative environment, where the project's overall success and helping each other succeed are primary.

Think small and large. Smaller projects have been slower to adopt BIM/VDC. The impression may be that there is little return on investment, but that is incorrect. In one example, a VDC coordinator was so efficient that not only were the building's work packages completed before demolition of the existing structure, but he coordinated the mechanicals with the steel fabrication company before that juncture as well, noting where the

penetrations would be required. The contractor then fabricated the steel with more than 75 penetrations at its shop. This meant no workers hanging from steel onsite to drill them, a safety improvement and time saver.

The \$20,000 contingency for steel was not used, a significant savings to the owner. Once the building was modeled and work packages issued, the VDC coordinator moved on to the next project, saving more money.

Resolving issues early

Using VDC allows issues to be resolved early. With preconstruction views of projects we can find cost savings prior to beginning work, coordinate with all trades and sequence work so that there is no conflict, facilitate on-time material delivery and maintain up-to-the date information that allow project team members to

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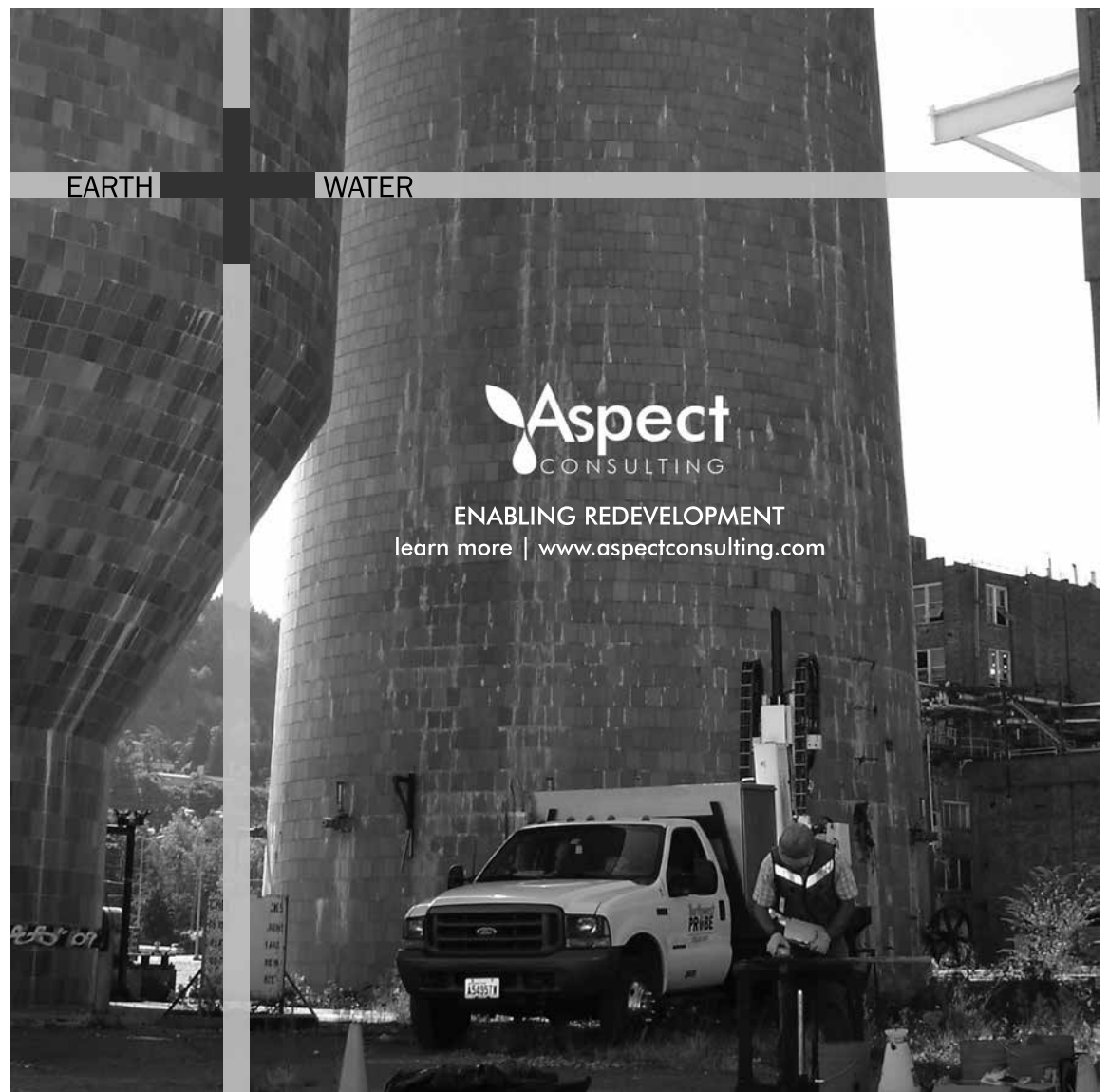
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ON THE COVER

HOK is designing Seattle's new basketball/hockey arena. Turn to page 9 for more details. IMAGE FROM HOK

DJC TEAM

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LOSTO IS BECOMING SEATTLE'S NEWEST HOT NEIGHBORHOOD

A long stretch of Stone Way that used to serve the homebuilding and contractor industry has been transformed by several new apartment projects.

The Fremont Collective created appealing multi-use spaces in a renovated warehouse. Outdoor gear retailer Evo is a prime tenant.



PHOTO FROM BAYLIS ARCHITECTS



Velo integrates subtly into the neighborhood, with courtyards and bay windows along Albion Place that respect the look and feel of adjacent residences.

PHOTO BY MIKE SEIDL



BY THOMAS FRYE JR. & MEREDITH EVERIST

BAYLIS ARCHITECTS

As Seattle's appeal as one of the most livable cities in the U.S. continues to grow, formerly under-appreciated neighborhoods are emerging as new hot spots in a city already characterized by unique urban villages.

LoSto — the lower portion of Stone Way anchored by the dynamic new Brooks Sport headquarters at Stone 34 — is rapidly attracting new residents and businesses to a new center of activity between the iconic Fremont and historic Wallingford neighborhoods.

Location, location, location

LoSto sits in an enviable location. Bordered by Lake Union to the south, the dynamic 42,000-square-foot Fremont Lake Union Center to the west and North 40th and Bridge Way to the north, LoSto is linked by bike, bus, road and even kayak to the burgeoning tech industry hubs of Fremont and South Lake Union, as well as prominent institutions of higher learning including the University of Washington, Seattle Pacific University and Bastyr University.

"Contractors' row" makeover

This stretch of Stone Way used to serve the homebuilding and contractor industry from a series of low-rise concrete block buildings that housed hardware, paint, lumber and plumbing supplies. Now much of this strip has been transformed by several exciting new apartment projects providing a variety of living spaces that in turn have generated an influx of new restaurants, activities and services.

Other independent businesses that evince the artistic, independent character of the surrounding neighborhoods continue to arrive, attracted by the increasing buzz and growth of nearby businesses like Tableau Software, Geocaching, Google, Adobe and Brooks Sports.

Embrace the new, respect the old

Stone Way forms a neighbor-

hood spine, orienting the focus south towards Lake Union and downtown Seattle and concentrating the energy of a vibrant collection of new multifamily and commercial developments. Surrounding this spine is a ring of low-rise townhomes that dissipate the energy from the spine and transition the scale gently back to the craftsman style bungalows that characterize the original neighborhood.

A common theme among the new apartment and commercial projects is their sensitivity to the street-level scale, textures and amenity-rich environment. Each takes a different approach to achieving these goals, avoiding the homogenization trap too often witnessed when development happens so quickly.

Prescott Wallingford

In 2012 Prescott Wallingford at North 39th Street replaced an empty Safeway store with 154 apartments, a ground level bagel shop, live-work units and a gym. Conscious of its extra long exposure fronting Stone Way and the single-family residences to the east, the building design breaks the overall mass into smaller, identifiable segments to reduce impact and provide aesthetic interest.

Pollard Entities, the former building owner, notes the rents have climbed significantly since opening as the LoSto neighborhood gradually takes root.

Hayes

Further down Stone Way at 3627, Pollard Entities and Washington Holdings are building the Hayes, which will have 124 apartments and 7,500 square feet of retail. The sidewalk scene has patios, roll-up doors, covered outdoor seating and plazas to promote social interaction between customers and pedestrians. The building will exhibit a restrained, refined aesthetic that provides a background — or "edge" as developer Kevin Lynch would say — and allows the large street trees along its frontage to take center stage.

Ray

Across Stone Way at 3636 is Mack Urban's Ray. This apartment has 119 units and 4,400 square feet of retail space. Its theme is light and bold colors, "anything but typical" according to the vision of Paul Keller, founding principal and CEO of Mack Urban.

"The artistic and independent boldness of Fremont was our design inspiration," Keller said.



CADD Northwest, Inc.
Tukwila, WA
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"I love this neighborhood's self-promotion as the Center of the Universe and asked the project team to put standard design notions aside."

Ray's rooftop amenity includes a fruit-filled orangery (greenhouse) and berry plants. Leases on the attractive retail spaces, anchored by an iconic light-filled pavilion, were quickly snapped up. Soon a pub and a yoga studio will further complement the string of new and popular spots along Stone Way and reinforce the pedestrian experience on the street.

Velo

Nearby at 3635 Woodland Park Ave. N., another Mack Urban apartment, Velo, provides 171 units catering to bicyclists. Close to the Burke-Gilman Trail, the building provides easy bike access and storage, as well as an onsite maintenance and repair space.

Extrovert versus introvert

While Ray boldly announces its presence on a busy arterial, Velo integrates subtly into the neighborhood. The Albion Place side of Velo consists of courtyards

and bay windows that respect the look and feel of the adjacent residences.

These two projects recently sold to Greystar Real Estate Partners and set record sales prices for property north of the ship canal. Velo commanded \$380,702 per unit and Ray \$306,525 per unit (including its 4,400 square feet of commercial space).

This may well have been the result of research begun in 2011, before the market strength was fully foreseen. Mack Urban, Baylis Architects and Emi McKittrick developed target market profiles for both projects based on coffee-shop interviews as well as demographics and psychographics.

Strong growth coming

Cliff Chandler, managing director of investments for Greystar, said, "There is still some strong rental rate growth to come in the Fremont market. I would think that the rents in Fremont are anywhere from 10 percent to 20 percent less than what you see currently in the downtown and South Lake Union areas, and we believe this is a positive situation for the two properties that we bought going forward."

The high per-unit values are good news for other close-in apartment buildings outside of downtown and South Lake Union, which may continue to see increases in value that could, in turn, easily manifest as more development in Ballard, the U District, Fremont and Wallingford.

Starting an evolution

At the heart of the LoSto neighborhood is the 25,000-square-foot Fremont Collective, a recent endeavor of Evolution Projects' founder Bryce Phillips. He and his partner, Chad Dale, most recently redeveloped a building across the street housing the restaurant Manolin.

An excerpt from the company webpage says it all:

"The Fremont Collective is quickly changing Fremont/Wallingford Stone way corridor with a unique mix of businesses and top Seattle operators. Much like the Kolstrand Building, Evo and the Greenwood Collective, the Fremont Collective has flexible, indoor and outdoor engaging spaces that will work to anchor the community and take advantage of another great neighborhood. It is home to two amaz-



PHOTO BY MIKE WALMSLEY

ing restaurants (Joule and The Whale Wins), as well as a flagship retail space for Evo and All Together Skatepark, Seattle's only indoor skatepark.

The transformation

Seattle is indeed fortunate to have the kind of visionaries, entrepreneurs and big thinkers who can look at an underutilized, underdeveloped mini-

neighborhood and catalyze its transformation into a distinctive, energetic magnet for life, work and play. There is much yet to look forward to as our city continues to grow and evolve.

Thomas Frye Jr., AIA, is a senior principal on multifamily projects at Baylis.

Meredith Everist, AIA, is a principal on multifamily projects at the firm.

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SEATTLE PACIFIC UNIVERSITY RETRO-COMMISSIONS 25 BUILDINGS

The school wants to become climate neutral by 2036. Its first move is to reduce natural gas use by 20 percent.

Seattle Pacific University is a private college with more than 4,000 students in the heart of Seattle. As a Christian university, SPU considers sustainability to be both an environmental and social justice issue, and has long considered responsible resource use part of its mission.



BY THULASI NARAYAN
PALADINO AND CO.

In 2008 SPU's ninth president, Philip W. Eaton, signed the American College and University Presidents' Climate Commitment, pledging to pursue carbon neutrality. By 2010, university leadership formally adopted an ambitious climate action plan with a long-term goal to become climate neutral by 2036.

"SPU has increased our push toward environmental stewardship in recent years," said Bethany Davis, sustainability coordinator at SPU. "With a goal of becoming climate neutral by 2036, sustainability is a priority, and every step to address energy saving gets us closer to this goal."

Through a carbon footprint analysis, SPU found that its most significant source of direct greenhouse gas emissions was through natural gas use in its

facilities. So the university set a short-term goal to reduce natural gas use by 20 percent.

Finding building performance

Building commissioning is typically implemented during construction, and is the process of verifying that the building and its systems are constructed, installed and operating as intended. When applied to an existing building, this process is called retro-commissioning, or retro-Cx.

SPU needed insight into its existing buildings, so it enlisted a consultant to conduct energy analysis and retro-commissioning for 25 campus buildings out of its 95-building portfolio.

"Retro-Cx can identify and resolve energy issues that have existed since the building was constructed or that later emerged," said Dev DuRuz, commissioning agent from Paladino and Co. "Its value lies in keeping occupants comfortable, uncovering opportunities for better energy efficiency, and serving as the basis for ongoing improvement."

Typically, the retro-Cx process is manually applied, building-by-building, and includes a thorough audit of the building systems, interviews with operations staff and occupants, and the creation of targeted facility improvement measures.

With 25 buildings selected for the retro-Cx program however,

SPU needed a faster and more cost-effective approach.

Bringing it all together

Like many campuses, SPU's building portfolio represents a diverse mix of ages, condition, use types and construction methods. A campus-wide commissioning approach was implemented to take advantage of common building characteristics and practices of the operations team, while allowing SPU to address building-specific challenges.

The effort required the input of SPU's utility providers, students and staff who occupy the buildings, and facility staff who manage the buildings. To begin, SPU and commissioning agents conducted occupant comfort surveys, reviewed building documentation, and conducted walk-throughs to evaluate the portfolio.

The team then grouped buildings by program — such as residential, office or classroom — and then established a mean energy use intensity (EUI) for each building type, based on utility data and information from the building management system. By establishing a mean EUI and plan for each program, the team could identify outliers and determine strategies to reduce the EUI to the target for each building type group.

Managing energy in real time

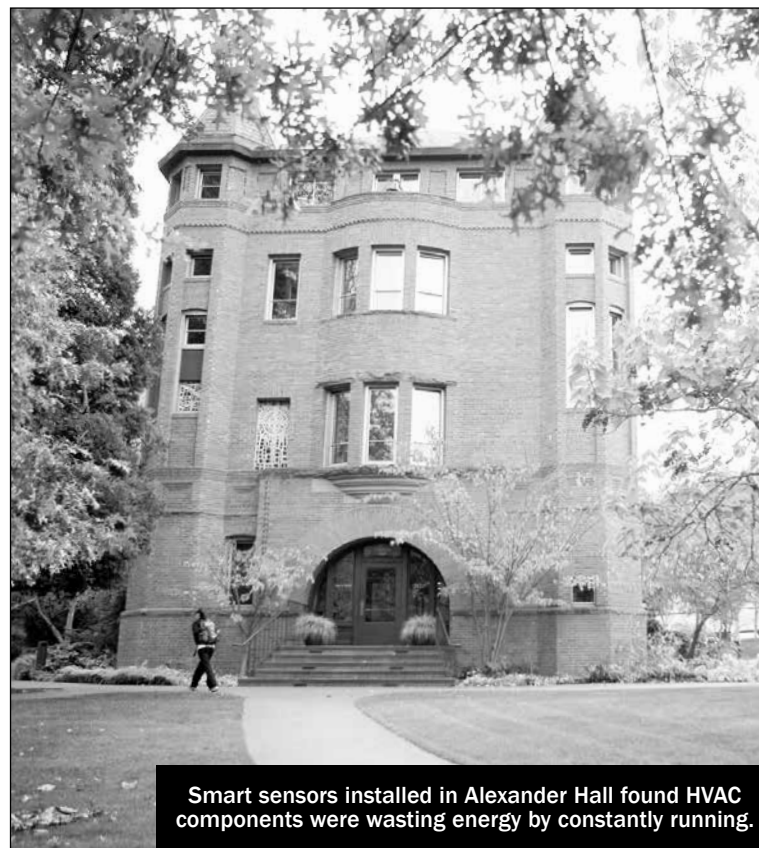
Through a partnership with Seattle's Smart Buildings Center, SPU piloted Buildpulse, a cloud-based analytics platform. The system allows building owners and operators to unlock the data in their existing building automation and control systems regardless of brand. It uses more than 70 sets of automated rules that run across normalized building automation systems (BAS) data to identify energy saving and operational improvement opportunities.

Leveraging the existing BAS network and sub-meters installed previously at the SPU campus, the pilot system automatically and continuously captures all system and building level performance data in real-time with a granularity down to 15 seconds for all buildings. Data is then sent automatically to an online dashboard to determine the portfolio's performance and ultimately streamline the benchmarking process.

In addition to system performance, utility consumption data captured from sub-meters presents real-time EUI information. All of the BAS data is captured and permanently stored in the cloud.

Hidden opportunities

Once the mean EUI for each pro-



Smart sensors installed in Alexander Hall found HVAC components were wasting energy by constantly running.

PHOTO FROM SEATTLE PACIFIC UNIVERSITY

gram was established, the team identified which buildings in each group were performing well and which needed to boost performance. A set of possible strategies linked directly to energy and carbon reduction impacts were established for each building to rectify issues.

Per a predetermined plan, site commissioning was conducted targeting the strategy to ensure data integrity. Using smart sensor data to supplement commissioning practices across the portfolio, the team was able to detect several energy wasting issues. For example, Alexander Hall, an 11,100-square-foot building constructed in 1893 and undergoing renovations, was the first building where smart sensor data was deployed. Through the collection of the building's HVAC point data, automated reporting identified variable refrigerant flow (VRF) units running 24 hours versus the intended BAS schedule of 8 a.m.-6 p.m.

A commissioning engineer supervised corrective action and confirmed that after a BACnet gateway was reprogrammed, the VRF units were enabled in the occupied mode from 8 a.m.-6 p.m. as specified.

A natural gas-fired central boiler system that serves four SPU buildings was also monitored. Six additional energy saving opportunities, including detection of issues with the duct heater and loop pumps, were identified through a review of the data using smart sensors as an analytics tool.

Simple changes, big value

Optimizing set points and maintaining operation schedule reduced building energy use and operational costs significantly. By detecting these issues, energy savings generally exceeded retro-Cx costs by a factor of five. When factoring in labor costs, an estimated \$15,000 was saved as opposed to the traditional retro-Cx engineering and subcontractor coordination process.

Simple changes, such as setting back the temperature in unoccupied space by 10 to 15 degrees for eight hours, can save SPU up to 15 percent per year on a heating bill — or as much as 1 percent for each degree.

"Conserving energy is a no-brainer," said Dave Church, assistant vice president for facility management at SPU. "It's our obligation as an institution, as citizens, and as responsible operators of a university."

"The results of this effort affirmed that conservation can have a major impact without causing major disruption," he said. "We look forward to taking this same smart approach to sustainability further in the coming year."

The capital improvement recommendations and maintenance items identified will help SPU achieve its 20 percent natural gas reduction target.

Thulasi Narayan is a senior consultant with Paladino and Co., a green building and sustainability consulting firm.

ESA

Helping clients meet environmental challenges and reach their goals for a more sustainable future.



THE TEAM

CONTINUED FROM PAGE 2

Building codes, fire/life safety

Building codes are complex, subject to discretionary interpretation, and always in flux. A good building code consultant helps to ensure life safety compliance; they can also help develop and present alternate code solutions to local building officials.

General contractor

Many will be surprised to find a general contractor listed here. This speaks to Weber Thompson's design process, whereby we not only count on our GC colleagues to participate in a design assist process, we also consider them to be valued collaborative members of our design team.

General contractors customarily provide cost-estimating and constructability review during preconstruction, but a more

sophisticated GC can now "build" a project on paper using their own BIM process, clash detection, real-time value engineering and an early RFI process. This brings a much higher degree of certainty to pricing, reduces change-orders downstream, and facilitates a smoother overall construction process.

Permit expediter

A good permit expediter will help to ensure that all of the various entitlement and building permits are processed and issued as expeditiously as possible — while making sure nothing slips through the cracks in the process.

Marketing/branding

A good marketing/branding team helps to set the stage for

success by furnishing market analytics that guide the design program, along with thoughtful market science that helps the owner and design team hit the target. When brought on early, this consultant can help infuse the project with the right branding DNA.

To the many dedicated and highly knowledgeable engineers and expert consultants that make it possible for us architects to do our jobs effectively, this architect says thanks and hats off!

Blaine Weber, AIA, is a senior and founding partner of Weber Thompson, a collaborative West Coast architectural, planning, interior design and landscape architectural firm based in Seattle.

DESIGN-BUILD

CONTINUED FROM PAGE 2

sumed most of our attention for four consecutive meetings, led us to potential solutions that should improve the fairness and inclusivity of the process. In our next meetings, we will turn our attention to the post-contract award phases of design-build. The goal is to improve the outcomes of an integrated design and construction team through effective design management guidelines.

Public owners have been collaborative and responsive in exploring the issues. In July, WSU held an all-day workshop in Pullman on design-build to focus specifically on the university's process and projects. Over 100 people attended, representing all sectors of the industry from across the state, producing a healthy exchange of ideas. Contractors and consultants spoke up about the pros and cons of their experiences, although perhaps not to the full extent that I had hoped.

Clearly, there is lingering concern about the potential for negative impacts in addressing difficult issues. We, as design professionals and contractors, need to get over that hump. The opportunity for improvement depends on our ability to speak frankly and propose effective solutions.

Walter Schacht, FAIA, is the architects' representative to the Capital Projects Advisory Review Board, chair of the Architects and Engineers Legislative Council, and a board member of AIA Washington Council.

DESIGN PARTNER

CONTINUED FROM PAGE 3

be nimble, and avoid having to perform rework. The value is as much in making for a safer workplace as it is in measurable dollars.

The "we've done it that way for years" mindset is obstructionist and precludes trying new

methods that have the potential for enormous payoffs. Yes, it is disruptive to old thinking and processes, but just like learning any new skill, after you have teamed with a professional the process is no longer disruptive — it is just the way to do business effectively.

Lana H. Gochenauer, LEED AP BD+C, is VDC manager and has been with Lease Crutcher Lewis since 2011. She is heavily involved in preconstruction and the standardization of the VDC process. She also is vice president of Seattle Revit Users Group.

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A CLOSER LOOK AT SEATTLE'S NEW NBA/NHL ARENA

The 18,000-seat arena will have an NBA training facility, and parking garage for the team, staff and VIP guests.

As a new landmark for the city, the Seattle Arena will deliver an amazing game-day experience for NBA and NHL fans and enliven the growing Sodo neighborhood.



BY ANTON FOSS
HOK

The building's distinctive stone, metal and glass facade reflects its industrial neighborhood and the varying heights of structures built over the past 100 years.

Contrasting the structurally expressive gestures of its neighboring football and baseball stadiums, the arena design emphasizes the enclosure of the energetic performance space that forms the building's heart. Reflecting Seattle's proud aviation history, the iconic fins on the roof are inspired by a jet engine's turbine blades.

"The integration of the arena with the other two sports venues and surrounding neighborhoods

provides a southern terminus to Seattle's new waterfront, energizing both the stadium district and the entire city," said HOK urban designer Jerome Unterreiner, a frequent contributor to the redevelopment of Seattle's waterfront over the past several years.

At 700,000 square feet, the arena will seat 18,000 people for basketball and hockey games and up to 20,000 for concerts. The development also has a 74,000-square-foot NBA training facility and a parking garage for the team, staff and VIP guests.

HOK's design of the seating bowl brings all fans closer to the action. Club and suite seat ticket holders will enter the building at ground level through a dedicated premium club entrance on First Avenue. Positioned a few rows off the floor, these suite seats will be among the best in the NBA and NHL. Three innovative "sonic rings" replace the "nosebleed" seats of a traditional upper deck. Leaning in toward the court, these seats provide

Fins on the roof are inspired by the area's aviation history.



IMAGE FROM HOK

2,500 fans with exceptional front-row vantage points and a luxurious club atmosphere.

Glass concourses connect guests to Seattle's beautiful skyline, the waterfront and, on a clear day, Mount Rainier. Views of city landmarks help fans navigate through the building and contribute to a distinctly Seattle experience.

The arena design creates a model of sustainability. Energy-

efficient displacement cooling maintains a comfortable temperature in the seating bowl. Concourses will be heated and cooled by energy-efficient radiant systems.

Shading devices along the exterior will control excess heat from the sun while enabling the structure to retain its interior and exterior transparency. Solar thermal tubes shade south-facing

glass while generating hot water for use in the building.

Green surface treatments on the roof capture 95 percent of the rainwater that reaches the building, reducing its impact on the city's storm sewer system. An innovative wastewater treatment system called the Living Machine captures, treats and

ARENA — PAGE 10



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DRAMATIC TAX CHANGE IS GOOD FOR IN-STATE A&E FIRMS

Many Washington companies can get refunds stretching back to the 2011 tax year.



BY ADAM
CLINE

KARINA
STADELMAN

MOSS ADAMS LLP

A 2010 legislative tax law change in Washington state regarding apportionment of certain revenue streams affects in-state companies as well as those that are out-of-state but operating in Washington. It isn't an extension of the old method, but a dramatic change that takes effort to understand.

Standing to benefit are taxpayers operating within Washington that derive income from in-state and out-of-state sources, which may vary based on where the benefit is received contractually or practically. On the flip side, taxpayers operating out-of-state that derive income from Washington sources, which again may vary based on where the customer's benefit is received, may

owe incremental business and occupation taxes.

This new legislation isn't entirely unique to Washington state. More and more states are adapting to collect tax from businesses that have no physical location in the state yet derive economic gains from the state's economy. Its reach stretches to companies working on foreign land but doing business in Washington. The law also helps create jobs by attracting companies to the state with tax breaks.

Far more architecture and engineering firms will be impacted — particularly those outside of Washington — and many of them will continue to use the old method due to complexity, lack of understanding or inertia.

Many in-state A&E firms may benefit financially through a review — some companies derive multi-million-dollar benefits — depending on facts and circumstances. Likewise, out-of-state A&E firms may get additional tax bills due to Washington on account of this legislation.

Regardless, this is a great opportunity for many taxpayers who are incorrectly reporting to clean up shop, and we're finding that many Washington companies end up with refunds.

General guidelines

Washington's B&O tax is a tax on gross receipts allocated and/or apportioned to the state. A company is deemed to have substantial nexus in the state if it has:

- More than \$250,000 of Washington receipts
- More than \$50,000 of Washington property
- More than \$50,000 of Washington payroll
- At least 25 percent of total receipts, payroll or property in Washington

While some A&E firms might have other revenue streams that aren't relevant to this discussion, most are taxed at the general service and other rate, which is 1.5 percent. And remember, the business doesn't need to have a physical office in the state.

Expanding parameters

Revenue is allocated under a series of steps. The first step provides for the sourcing of service receipts — or where the customer received the benefit of services rendered — which is commonly referred to as "reasonably determining."

Most taxpayers are expected to reasonably determine revenue through proportionally attributing revenue amongst the states where customers receive the benefit of services rendered, according to Rule 19402. The rule also states if a taxpayer performs services for the benefit of a third party, the term "customer" means the third-party beneficiary.

Realizing the ambiguity involved in determining where the cus-

$$\text{RECEIPTS FACTOR} = \frac{\text{Washington apportionable receipts}}{(\text{Worldwide apportionable receipts}) - (\text{Throw-out income})}$$

THE RECEIPTS FACTOR

How much B&O tax is required? You first need to know the receipts factor.

Once revenue has been attributed, an apportionment percentage, also known as the receipts factor, is calculated. The numerator is Washington-source receipts and the denominator is receipts attributed everywhere minus receipts attributed to states in which the taxpayer isn't taxable, which is known as throw-out income. Before a percentage is calculated, the denominator must be modified by throw-out income.

Once the receipts factor is calculated, it's then applied to the company's total worldwide revenue to arrive at apportioned gross income subject to B&O tax. This calculation is separately computed for each revenue category, such as services or royalties, and should be done annually.

tomers received the benefit, the Department of Revenue expanded its parameters. If the service relates to real property, then the benefit is received where the real property is located. Here's a nonexclusive list of services that relate to real property:

- Architectural
- Surveying
- Janitorial
- Security
- Appraisals
- Real estate brokers

Engineering firms may have services related to real property or tangible personal property (TPP). If the service relates to TPP, then the benefit is received where the place of principal use of the TPP occurs. If the TPP will be created or delivered in the future, the principal place of use is where it's expected to be used or delivered.

Window of opportunity

The statute of limitations for filing refund claims and assessments is four years plus the current, and the statute falls off at the end of this calendar year. There are only a few months left to review the B&O tax methodology for the 2011 tax year and

to request a refund if there's an overpayment under the new rules.

The new rules are complex and taxpayers should check if they're in compliance. If the result has a high price tag, then investigate practical solutions to achieve a better tax outcome. If there's an overpayment, then request a refund from the state. This is where a tax advisor might be able to help navigate the many hidden elements to the regulations and take a deeper look so you can increase your state tax savings and reduce exposure while working to put your books in order for a potential excise tax audit.

Adam Cline has provided state and local tax consulting services since 2005. He assists clients with Washington state tax matters and multi-state income/franchise and sales/use tax matters.

Karina Stadelman has practiced public accounting since 1999. She provides business consulting, tax planning and tax compliance services with a focus on professional services firms and the real estate and hospitality industries.

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ARENA

CONTINUED FROM PAGE 10

reuses wastewater within the arena.

On non-game days, the arena will continue to contribute to the community. Infrastructure improvements to the blocks surrounding the arena will include a new bicycle and pedestrian bridge over the railroad tracks east of the site, improving access and safety in the Sodo district. Rain gardens near First Avenue and Holgate Street will beautify the street while treating rainwater to minimize its effects on the city's stormwater infrastructure. The addition of more than

30,000 square feet of outdoor public space — comparable in size to Occidental Park and Westlake Park combined — will benefit the community year-round. The large outdoor plaza will accommodate intimate concerts, watch parties, a weekend farmers market or an outdoor basketball tournament. The club restaurant will spill out onto First Avenue and fans will frequent the surrounding businesses.

Additional infrastructure to support lunchtime food trucks will be provided by the neighborhood. "The design of outdoor public

space around the arena embraces the history of the site and promotes education, sustainability and public access," said Mark Brands, managing principal of Site Workshop, the design firm that oversaw the site and landscape design. "This space is intended to be used on a regular basis by the Sodo community while providing a regional attraction that strengthens the entire stadium district."

Anton Foss, AIA, is a senior vice president and managing principal of HOK's San Francisco and Seattle offices.

INSTALLING AN AV SYSTEM? TRY YOUR IT NETWORK

Using a building's existing IT network can simplify audiovisual installation, use and maintenance while lowering overall cost.

Audiovisual systems are critical to the functionality of today's schools, conference centers, meeting rooms and performance spaces. All of the content that is projected from a digital source to the masses over monitors, screens and speakers uses the facility's AV systems and infrastructure.



BY STEVE MALONE
STANTEC

Project decision makers, audiovisual designers and information technology managers need to be aware of the benefits of adding audiovisual systems to their converged IT network instead of designing stand-alone AV system infrastructure.

As IT network bandwidth in buildings becomes less expensive, more and more systems are using a facility's IT network as the pathway to communicate. Most building systems like HVAC, building automation and security, for example, have already made the move to using the IT network for centralizing communications.

Audiovisual systems are headed in that direction and we see this becoming more prevalent within the very near future. Using a building's IT network can simplify audiovisual installation, use and maintenance while lowering overall cost. This information is especially relevant to those designing corporate meeting spaces and higher education, but applies across all markets.

The basic audiovisual system purpose is to allow you to present content from a computer onto a display to share with multiple people. The system consists of a source and a destination. The source can be a range of devices from a PC, laptop, DVD player, or a cable plugged into your portable device. Destinations can range from monitors, televisions, projectors and screens. It's what happens in between the source and the destination that offers great opportunity for streamlined communication.

Typical AV pathways

In standard audiovisual technology design, source data is routed to its destination display over dedicated cables. The type of this connection depends on display resolution, length of cable and the manufacturer. In a simple audiovisual system, a source can be connected directly to the display.

In more complicated systems, where you have multiple sources

and/or multiple displays, a switcher is required to allow these sources to be routed to the displays. This switcher can be very simple or very complex depending on how many sources need to be connected and how many displays are present.

Switchers can get even more complicated when you introduce options like combinable rooms (rooms with movable partition walls) and/or overflow spaces. Additional hardware and software is required in these systems to include the ability to share sources with rooms in different locations.

A typical meeting room audiovisual system takes an audiovisual connection, like the HDMI connection from your laptop, converts it to a proprietary signal, passes it through a proprietary switcher and then routes it to a receiver that converts the proprietary signal back to HDMI before connecting it to the display. The bottleneck for connectivity and routing options comes at the complexity, or lack thereof, of the switcher. The options have to be built into the switcher to allow any of the required features to be available. Each additional required feature comes with an increase in cost.

IT networks simplify AV

Instead of converting the meeting room's audiovisual source signal to a proprietary signal, a better option is to convert it to a standards-based IT network signal that can transverse the facility's standard IT network topology and hardware. At the destination end, instead of converting the proprietary signal back to an audiovisual signal to connect to a display, a standards-based IT network audiovisual receiver is used to do this task. This allows the already installed network infrastructure to transport the audiovisual signal from source to destination.

In addition to this simplification of cable routing, you also get the ability to route any source to any display that is residing on the same network. This removes the central proprietary audiovisual switcher from the equation by using the IT network itself as the "switcher."

An additional feature of using standards-based IT networking for audiovisual systems is the ability to share resources, such as recorders, video-teleconferencing units and windowing processors. The IT network also makes sharing (streaming) audiovisual content across multiple locations simpler than ever before. One-to-one connections can be made using an intranet

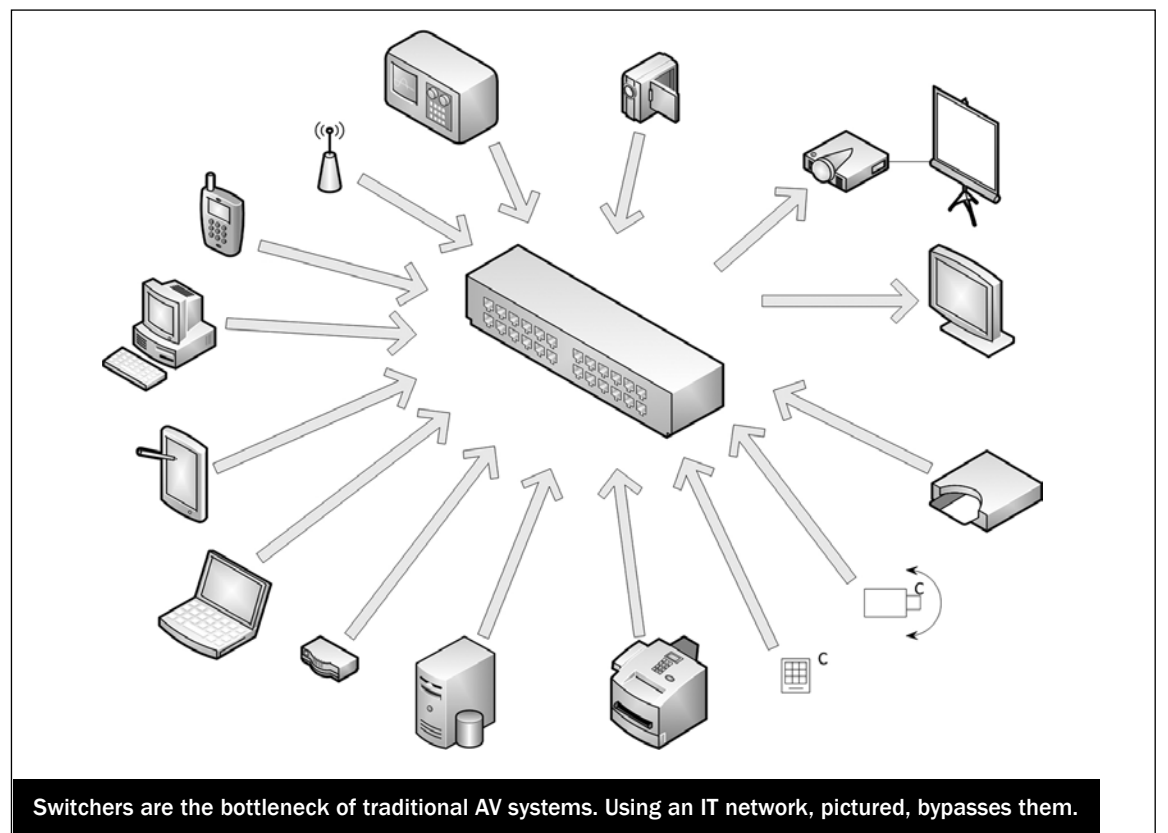


IMAGE FROM STANTEC

while one-to-many connections can be made using the Internet.

Why isn't everyone doing it?

In order to add additional devices to a business or campus IT network, you'll need buy-in from the IT managers. A place of resistance is typically found with the following question: "Since this audiovisual device is residing on our network, will we be responsible for maintaining and troubleshooting it?"

This is a valid concern, although this question has already been asked and answered with the other building automation systems devices, such as security cameras and key card interfaces that are already running through the IT network.

The question, in regards to networked audiovisual systems, should be answered the same way as it is for the other systems: the IT personnel manage the connections while the facilities people manage the devices. This unity is where the greatest savings is realized, as it reduces the cost of both the infrastructure and hardware required to create even complex audiovisual systems. This also allows for flexibility in audiovisual systems that would otherwise be extremely cost prohibitive.

Flexibility, lower costs

In building design, providing the infrastructure and pathways to accommodate even a mod-

est audiovisual system with its own cabling system can come with a significant cost. With the IT network already included in the design, slightly increasing its capacity (both physically and in bandwidth) and moving the audiovisual system to the IT network can allow audiovisual con-

nectivity to be located wherever there is a network jack. This creates simple and low-cost flexibility that isn't currently being realized.

Steve Malone is an audiovisual consultant in Stantec's Lynwood office.

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SURVEYS

STUDIO 19 ARCHITECTS

Specialty: Architecture firm with specialty in mixed-use, multifamily/residential, hospitality, commercial and interior design

Management: Hui Tian, principal

Founded: 2009

Headquarters: Seattle

2014 revenues: N/A

Projected 2015 revenues: N/A

Projects: HUB Seattle, student housing in a mixed-use building near the University of Washington; 23-story apartment building by TeamRise at Fourth Avenue and Bell Street in Seattle; 14-story hotel, apartment and condominium building at Eighth Avenue and Lane Street in Seattle's International District

Studio 19 Architects principal Hui Tian answered questions from the DJC about trends and issues in the industry.

Q: Which development sectors do you expect to expand or shrink locally?

A: Multifamily development is going strong but we expect that to diminish slightly in the next few years but continue to be a stable development type, as individuals and families are moving to the city.

We are also seeing the commercial sector really take off now as more companies are locating in the city and startups are opening up in downtown. Most of these are in technology, but

other firms are also setting up shop here.

Additionally, the hospitality sector is growing rapidly, and we have taken on quite a few of these projects. We see this continuing for the next few years.

We expect senior housing projects to be one of the next sectors to pick up.

Q: Your firm appears to be growing quickly. Why is that?

A: Studio 19 Architects has grown from three people to 14 in four years. The Puget Sound Business Journal named us the second fastest growing minority-owned firm in Washington last year. The rankings were based on revenue growth from 2011 to 2013.

We are growing fast because we are a small firm with big firm experience and we are very efficient with projects and schedules. We have added projects over the past two years. They are in different phases of design and construction, which allows us to continue to take on new work.

Our growth is also propelled by current market conditions and opportunities in the Seattle area. This has allowed us to do larger projects than in the past.

We are also better known now because we have been in the market for a while. Additionally, we have been more involved in community events recently,

HUB Seattle is a seven-story student housing project planned near the University of Washington.



RENDERING BY STUDIO 19 ARCHITECTS

which has led to growth opportunities.

Q: What challenges and trends are you seeing?

A: There is significant demand for condominiums, but little supply.

Many of our clients would like to develop condo mixed-use buildings. However, because of liability issues and limited financing options, those buildings are not getting built. This will continue to be a challenge for some time and will increase demand for condos.

We are also seeing demand for smaller, more efficient apartments. With rising rents, tenants are looking for smaller affordable units that will allow them to live downtown.

More low-income housing is also needed. We think it is an important and necessary development for the city and believe the sector will expand in the near future.

Q: What projects are keeping you busy, and how much of it is funded by EB-5 money?

A: Most of our recent work has been apartment and mixed-use buildings. Since the apartment boom began we have been working on mixed-use apartment buildings downtown and stand-alone apartments outside of the downtown core. Townhomes and single-family custom homes have also been a big part of our portfolio.

Recently we have added hotel

and other commercial projects, as those sectors have started to pick up.

Most of our projects are privately funded in the U.S., but we have experience with a limited number of EB-5 projects.

Q: Is there a recent project that has given your firm a chance to stretch its capabilities?

A: We are working on a 14-story building in the International District that includes hotel, apartment and condos. The programming of the multiple uses is a unique opportunity to creatively work out the layouts and connections. This prominent project will help revitalize that area and shape its future.

DAVIDO CONSULTING GROUP

Specialty: Civil and structural engineering

Management: Erik Davido, president; Matthew Schmitter, vice president structural; Quin Clements, vice president civil

Founded: 1999

Headquarters: Lake Forest Park

2014 revenues: \$3.7 million

Projected 2015 revenues:

\$4.1 million

Projects: Lake Forest Park Lyon Creek flood mitigation; Seattle Public Utilities pump station evaluations; Merrill Gardens Burien, Ballard and Auburn; Seattle City Light and SPU Terminal 117 adjacent streets cleanup; National Park Service civil and environmental engineering

Erik Davido talked to the DJC about his company and what's happening in the A&E industry.

Q: What are some industry trends you are noticing?

A: Our firm is seeing increased interest in sustainable building techniques from owners and developers as they see the spe-

cific measurable benefits, such as energy efficiency and lower construction costs. For example, progressive codes such as the city of Seattle's stormwater code, require developers to use green stormwater infrastructure to the maximum extent feasible, which is generally less costly than underground detention vaults.

Energy efficient and low-VOC products are more readily available and are no longer significantly more expensive than other products, making sustainable building more cost competitive than it was in the past. With these benefits, sustainable building is becoming more mainstream and familiar to developers and the general public alike. We look forward to seeing this trend expand into the creation of vibrant, sustainable urban communities.

Q: Which sectors have been the busiest for you?

A: Over the last couple of years, DCG has experienced increased growth across several sectors as

a result of the recovering housing market and economic upturn.

Senior living facilities have gained traction in communities across the Puget Sound region, with DCG providing civil design services for 100-plus-unit facilities in Seattle, Auburn and Burien within the last year.

Congregate residences and micro-housing (small efficiency dwelling units) have also seen a rise in popularity, offering affordable in-city living opportunities.

Steady growth continues in the townhouse/rowhouse market, with developers seeking parcels within urban areas that offer the ability to maximize the zoning density while maintaining the single-family appeal to prospective buyers.

Q: What are some challenges facing your firm and industry?

A: The number one challenge facing our firm over the next couple of years is finding and retaining employees. Finding bright, knowledgeable entry-level engineers is becoming more difficult as the number of civil/structural students has contracted over the years, yet demand is increasing with a return of the growth economy.

As the economy builds, it is even more difficult to hire experienced staff who are looking to leave their current employers. To retain our staff when other firms are looking to hire and provide incentives makes the employee pool very competitive. We have been fortunate in not experiencing much turnover, however as we grow, finding the right employees to fill positions will be a challenge.

Q: Does sustainability play a role in your firm?

A: We have staff with LEED certification and have participated in many LEED-certified projects, and we continually look for ways to incorporate sustainability into our projects.

Our designs incorporate environmental sustainability with the use of special features and materials, particularly in stormwater management. For example, we recently completed civil design for a bus maintenance and administrative facility that included grading and paving plans for light-vehicle parking featuring low-impact development BMPs including pervious pavement and rain gardens for stormwater treatment and infil-

tration, heavy-duty concrete for the transit coach parking and maintenance area that features stormwater collection and treatment.

Q: How has technology changed what you do?

A: The largest change is computer processing power. This change allows for both faster computations as well as an expansion in what can be modeled. The speed of current 3-D modeling versus a few years ago will be even further surpassed in the coming years. The challenge is keeping up with the technology both on the software and hardware sides, and then being able to efficiently use the results to produce the same sized sheets of paper that have been around for centuries. New technology still needs to fit on the sheet when all is said and done.

New drafting technology enables design team members as well as clients to visualize the design more clearly during the design process, which allows for more transparency with better tools available to identify potential errors and quickly collaborate to find solutions.

SURVEYS

ESM CONSULTING ENGINEERS

Specialty: Civil engineering, planning and surveying for private sector clients and municipalities

Management: Eric LaBrie, president; Rick Foxworthy, senior vice president; Laura Bartenhagen, principal; Trevor Stiff, principal; Zack Lennon, principal

Founded: 1982

Headquarters: Federal Way

2014 revenues: \$4.6 million

Projected 2015 revenues: \$4.8 million

Projects: Whole Foods Market, University Place; Point Ruston waterfront community, Tacoma/Ruston; Suncadia master-planned community, Cle Elum, Kittitas County; Weyerhaeuser Campus ALTA survey, Federal Way

ESM Consulting Engineers President Eric LaBrie responded to questions about the firm's projects and services, and maybe a warm, scenic site for a new office.

Q: What's the most interesting project you're working on?

A: We have quite a few interesting projects going on now, but the first one that comes to mind involves providing survey control for a 39-story mixed-use tower known as 2nd & Pike.

Being located in Seattle's downtown core area, precisely locating all of the underground utilities on and adjacent to this very tight site is not an easy task. In addition to the topographic survey component, the project requires us to provide vertical control and alignment for each floor as the building goes up. We're also continuously monitoring adjacent buildings for movement during the deep excavation for the building's foundation.

Q: Which of your services is most in demand?

A: I don't see any one service being more in demand than others. Our primary disciplines (civil



ESM provided civil engineering and land planning for the new Whole Foods store in University Place.

PHOTO COURTESY OF ESM CONSULTING ENGINEERS

engineering, surveying and planning) are so closely related that they tend to rely heavily on each other. No individual one is more important than another.

Q: What's a concern you have about the current market?

A: My biggest concern with today's market is the lack of developable land within the current Urban Growth Area. The majority

of land available is highly constrained and continuously being squeezed with more stringent regulations, making it harder for builders and developers to provide housing that's affordable for even dual-income households. Affordability forces people to drive farther out to find housing, which then puts even more pressure on our failing transportation network. There's no win-win scenario if we continue down this path.

Q: Your firm is doing interesting things with 3-D mapping. A couple details?

A: After we started offering laser scanning as a service in 2005, we began looking for the next leap in technology, and that's when we found (a company called) earthmine.

ESM became earthmine's first project partner in 2008, and our most exciting project to date was mapping transportation assets along a highway in northern

Greece. This roadway is about 416 miles long and extends from the Greece's northwestern most seaport to the Turkish border. As you might imagine, there was quite a learning curve with our first international project, especially shipping high-tech equipment overseas.

We're going to have an exciting announcement in early 2016 with the newest version of this technology, so stay tuned.

Q: ESM has offices in Federal Way and Everett. Are you eyeing other locations?

A: We offer civil engineering, survey and planning out of our corporate office in Federal Way. The Everett office is small and houses a second group of survey crews. This helps us cover the entire Puget Sound region more efficiently than trying to run all survey out of Federal Way. We have no plans to expand into other locations or move offices at this point, although Greece was pretty nice.

NAC ARCHITECTURE

Specialty: Education, healthcare, master planning, interior design, electrical engineering, graphics

Management: Dana Harbaugh, CEO

Founded: 1960

Offices: Seattle, Spokane and Los Angeles

2014 revenues: \$26 million

Projected 2015 revenues: \$30 million

Projects: Hazel Wolf K-8; Mount Si High School; Hamlin Robinson School; Bellevue College residence hall; Montana State University Yellowstone Hall

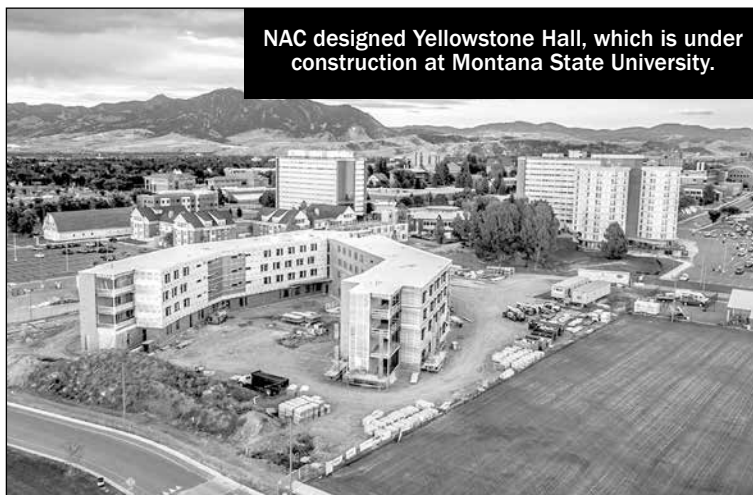
NAC Architecture has been growing fast and designing schools all over the Puget Sound region, as well as in Hawaii and Montana. Dana Harbaugh, the firm's CEO, sat down with the DJC to talk about NAC's growth and its outlook on Seattle.

Q: What are some trends in the industry?

A: Innovative design solutions that respond to and incorporate research in evidence-based design are more valued than ever by our clients. Clients want to know that their new buildings will help them and their patrons perform better in whatever service they provide.

Q: Which sectors have been the busiest for you?

A: Our healthcare practice was critical to our success in weathering the recession when community interest for investment in funding capital bond programs for



NAC designed Yellowstone Hall, which is under construction at Montana State University.

PHOTO FROM LANGLAS & ASSOCIATES

education was low. Now that the economy has recovered, we are seeing an increase in our education projects that are publicly funded. Our healthcare market has remained strong over the past two or three years.

Q: How does Seattle compare to other markets you work in?

A: Of our three offices (Seattle, Los Angeles and Spokane), our Seattle office has seen the most significant growth in the past year. Since Jan. 1 of this year, the Seattle office has grown 43 percent and added 16 new people.

Q: Does environmental sustainability play a role in your firm?

A: Sustainable practices are integral to all our design solutions. LEED and WSSP (Washington Sustainable Schools

Protocol) have become part of our expected design delivery process. We make a conscious effort to exceed predicted Energy Use Intensity (pEUI) on all our projects, cutting the predicted energy usage by as much as 50 percent or more over the average of similar project types on many of our projects. We also believe it's important to display progressive sustainability practices in the building's design, helping the building educate the public about how we can be better stewards of our environment.

Q: What do you see happening here over the next few years?

A: 2016 looks like it will be a robust year for our Seattle office. It will be interesting to see how long the current growth rate is sustainable.



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SURVEYS

BCE ENGINEERS

Specialty: Mechanical, electrical, life safety and energy design

Principals: Daren Bitterling, Michael Cozart, Scott Zimelman, Chuck Heaton, Chris Caffee, Steve Woolery, Ben Hedin, Joe Snyder

Founded: 1986

Headquarters: Fife

2014 revenues: \$8.2 million

Projected 2015 revenues: \$9.5 million

Projects: Meadow Crest Early Learning Center, Renton; Joint Base Lewis-McChord mechanical/electrical on-call services; Youngstown Flats, Seattle

Dave Newkirk, BCE's marketing manager, discussed with the DJC how the firm has grown and the effects of the development boom on its staff and workloads.

Q: What projects represent BCE's sweet spot?

A: Either a new construction or large renovation of a facility that incorporates mechanical, electrical, plumbing and fire protection engineering services. We really like it when all of services are needed and we can collaborate in-house to come up with great engineering solutions to complex problems.

Q: Which services have seen the most growth over the last 5 years?

A: Our Fire Protection Group has been really busy on various projects for schools,

military and on the commercial side. All of BCE's services have been designing in 3-D modeling programs such as Revit for close to a decade, and has greatly expanded our ability to work in these programs and provide our clients an improved product.

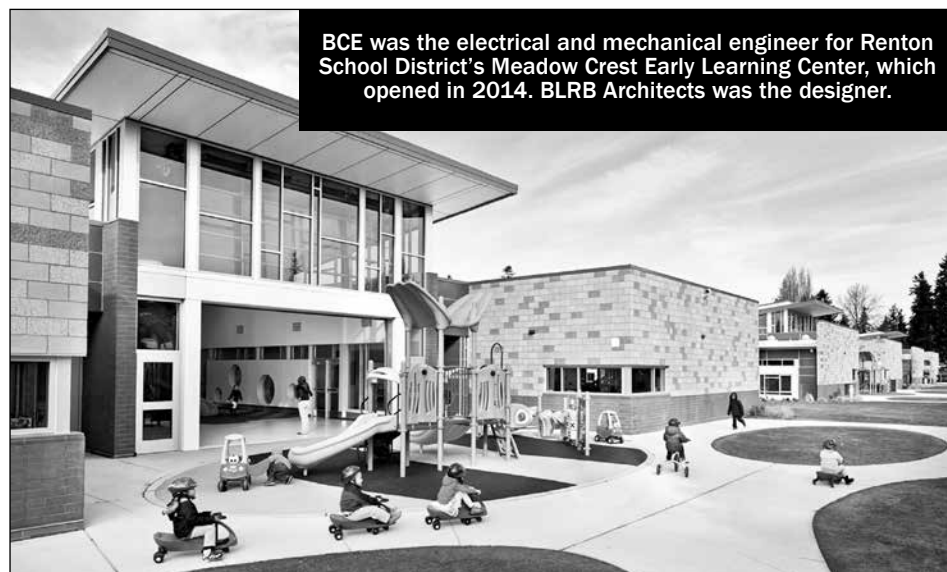
Q: Where would you like to see more growth?

A: It would be great to see more health care and commercial projects come our way. We have made some great strides in those markets, but we are always looking for more ways to be inventive and creative to save time and money for our clients.

Q: How has the development boom affected your firm?

A: Our staff size has seen moderate growth, but luckily our workload has been very consistent for multiple years due to our very diversified portfolio.

We do everything we can to make sure that our growth is sustainable and consistent regardless of the fluctuations in the economy, which is why we were able to maintain our workload and staff through the recession and why we haven't had a huge hiring boom with the economic boom. Instead of hiring more people, we balance the work between our staff and ensure all employees have plenty to do, while balancing their time away from the office.



BCE was the electrical and mechanical engineer for Renton School District's Meadow Crest Early Learning Center, which opened in 2014. BLRB Architects was the designer.

PHOTO COURTESY OF BLRB ARCHITECTS

Basically, the development boom has meant that we get to be a little more selective and have more freedom to focus our energies towards the areas we want to grow.

Q: Is there a recent project that has given the firm a chance to stretch its capabilities?

A: It is hard to single out a specific project when we have such a diversified workload. One of the benefits of doing many different types of projects is it allows us to provide innovative solutions that can cross over from one market sector to another for the benefit of the design team

and project owner.

Q: How has the growth of sustainable design affected your work?

A: As engineers, we are always striving to come up with the best possible solutions for the design challenges we face. The emphasis on sustainable design in the industry has given us license to explore new ways to save energy and decrease building life-cycle costs and impacts. The growth of sustainable design has made our work more fun because there are more opportunities for our engineers to be creative and produce real innovative solutions for our clients.

WEBER THOMPSON

Specialty: Architecture, interior design, landscape architecture, community planning

Management: Blaine Weber, senior principal

Founded: 1988

Headquarters: Seattle

2015 revenues: \$15 million

Projected 2016 revenues: \$16.5 million

Projects: Cirrus at 2030 Eighth Ave., with 355 apartments; Fremont Office Building, with 106,000 square feet of class A commercial office space

Blaine Weber answered questions about his firm and industry trends.

Q: What divisions of Weber Thompson have seen an uptick in work?

A: In the past year, the two sectors that have seen the most new growth in our firm are commercial office and affordable housing, along with continued steady growth in high-density residential and mixed-use projects in urban and suburban centers. We've increased our staff by 7.5 percent so far in 2015, adding production staff and infrastructure positions to support increasingly large and complex high-quality projects.

Q: Are you shifting the firm's focus at all?

A: Weber Thompson continues to grow our commercial office, hospitality and affordable housing market sectors in addition to the market-rate housing work we are best known for. Although these are not new lines of business for us, there is an added emphasis on building them up as a greater percentage of our overall workload and portfolio. There is still plenty of work in market-rate housing but we believe the diversification is good for the longterm health of the firm for several reasons.

Q: What design trends have resulted from end-user requests?

A: We talk a lot about end-user desires/expectations in our various design studio discussions — it is back-seat-driving the design boat on many levels.

Regarding residential, I would have to say that end-user expectations for the "third place" continues to top the charts. Millennials are willing to live with much less space — provided that the amenity/hiving spaces are top shelf, and that they are designed to facilitate social activity in a



Weber Thompson designed this 106,000-square-foot office building across North 34th Street from Tableau's Fremont headquarters.

IMAGE FROM WEBER THOMPSON

meaningful way.

With hotels, there is a desire for a more residential feel; more focus on the healthy lifestyle guest experience and in connecting to "local" as opposed to being generic across the country.

With commercial office, we are seeing speculative developers embrace sustainability in a surprisingly big way as a means to

help ensure success.

Q: What trends are on the horizon and will business continue to be strong?

A: We are seeing a continued geographic expansion of the strong building market — increasing in Bellevue, Kirkland and Redmond, then potentially expanding north and south to

Bothell and Renton. More urban commercial office and affordable housing projects are coming through our office and we expect that to continue through 2016 and beyond. For us, this should translate into a relatively strong 2016 through a wide mix of project types and locations, but being in operations I like to stay conservative in my forecasting.

SURVEYS

FREIHEIT & HO ARCHITECTS

Specialty: Architectural and interior design services across a diverse range of commercial project types with an emphasis on retail, office, mixed-use and multifamily

Management: David S. Hills, president

Founded: 1985

Headquarters: Kirkland

2015 revenues: \$6.5 million

Projected 2016 revenues: \$9 million

Projects: Hawk Tower, formerly known as East Block Stadium Place, Seattle; Urbana Apartments, Seattle

Freiheit & Ho President David S. Hills answered questions about his company and the industry.

Q: Have any Freiheit & Ho divisions increased business this last year?

A: All of our target market sectors have seen growth in the last year with particular strength in the office, industrial, multifamily, community spaces and office interiors markets, followed by hospitality and retail.

Q: Which project or two are

you most proud of in 2015?

A: We are proud of the Hawk Tower at Stadium Place project. This property features twin towers with 180,000 square feet of class A office tower and a 282-room Embassy Suites hotel. A key feature is the five-story glass atrium that connects the two towers and how it informs the neighborhood on a larger urban scale. The atrium creates a pedestrian cross-block connection that is important in reconnecting the International District with Pioneer Square, creating a rich pedestrian experience by providing public gathering spaces supported by ground-level retail.

Another, the Urbana Apartments located in Seattle's Ballard neighborhood, highlights our ability to create a truly mixed-use residential property. The success of Urbana demonstrates the critical roll well-designed amenity spaces play in the value of multifamily developments.

Q: Have you adopted any new technologies in your LEED or sustainable design approach?

A: We are seeing a continued

Freiheit & Ho designed Hawk Tower. The project has 180,000 square feet of class A office space and a 282-room hotel.



IMAGE FROM FREIHEIT & HO ARCHITECTS

move beyond the certification program towards a more holistic approach — measurable building performance. While still in the development stage we believe this approach will yield more benefits than traditional certification programs.

Q: Has there been an increase in hotel and gaming projects at Freiheit & Ho?

A: The gaming sector has begun to recover with a few significant

gaming projects on our boards. Surprisingly, we are seeing a renewed strength in the retail marketplace. While still struggling to some degree we have seen our retail clients grow across a number of market segments.

Q: Have you seen an uptick in business from the high-tech sector?

A: Yes, the high-tech sector has seen considerable growth in both our office and office interiors

services. We have seen much of this growth on the Eastside, more than the downtown Seattle area.

Q: Any predictions for 2016?

A: We believe the design and construction growth will continue in conjunction with the Puget Sound economy especially within the urban, mixed-use markets. We expect to parallel that growth along with increasing work throughout the Pacific Northwest and beyond.

KAREN KIEST LANDSCAPE ARCHITECTS

Specialty: Landscape architecture

Management: Karen Kiest, owner

Founded: 2002

Headquarters: Seattle

2014 revenues: \$600,000

Projected 2015 revenues: \$725,000

Projects: Cross Kirkland Corridor, with 1,000 feet of paved pedestrian and bike trail and fitness opportunities framed by Google's campus; new courtyards in a neglected quadrant at the University of British Columbia Health Precinct; Odin Apartments in Ballard

Karen Kiest, the owner of Karen Kiest Landscape Architects, answered questions from the DJC about trends and issues in the industry.

Q: Your firm appears to be growing quickly. Why is that?

A: Like many of our architectural clients, we stepped away from a prominent firm (following 9/11) and hung out our shingle. Now, our clients and ourselves have evolved into the next generation of firms. When you're a small firm, every new employee is a leap in size. We are also happy to work across several project types — campus to corporate to residential to larger public

planning projects — which keeps us busy from the Puget Sound region to Vancouver, B.C.

Q: What challenges and trends are you seeing?

A: In mixed-use projects, we're seeing a rapid sophistication and rising expectations for the potential of outdoor spaces — particularly rooftops — to sell a project. Clients are more interested in our work, and trust us more, and are more willing to invest in a "wow" factor.

We're also seeing more projects blurring the potential between residential and office environments, with all clients seeing the value of amenities — indoor and outdoor — for tenants.

We're adding dog runs to the offices, and Wi-Fi spots for the residences, and fitness and fun — from bocce to pingpong to putting greens — for both.

We're starting an office project in South Lake Union that sees the roof terrace as the ultimate recruiting amenity. In this project we're including "dunes" of mixed grasses and raised planters for urban agriculture separating the barbecues and dining spots from the "beach" of wood decking with fire pits and endless views.

Q: Is there a recent project that has given the firm a chance to stretch its capabilities?

The Cross Kirkland Corridor includes 1,000 feet of paved trail between Google offices where a basketball court, sand volleyball court and other fitness opportunities can be found.



IMAGE FROM SRM DEVELOPMENT

A: For Google's Kirkland campus, the client has been anything but typical. Google's phase two expanded to envelop the former railroad right of way to create the first completed segment of the Cross Kirkland Corridor. With Google, "fitness" includes anything from boot camps to sand volleyball to zip lines. The completed project includes 1,000 feet of fitness along a paved pedestrian and bike trail.

Q: What can designers, devel-

opers and government do to make cities more livable?

A: Look beyond the immediate "project" — i.e. beyond the individual parcel, building, etc. — to see how the investment can address the larger context.

As landscape architects we advise our clients that sustainable goals (stormwater, urban forestry, bike and pedestrian routes) are best realized in the neighborhood, not the building site. Living streets are better streets that have attracted retail,

restaurants and residents.

Q: Where will growth come from locally in the next few years?

A: In this region we're still seeing the pendulum shift back to the urban neighborhood. However the successful neighborhood will be one that addresses the needs not only of the young, but of the senior population, which has financial resources and is seeking barrier-free access ... Seattle's hills are tough!

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