

**\*\*STRATEGIC PARTNERSHIP PROPOSAL\*\***

**\*\*ResTech360\*\***

**\*\*+\*\***

**\*\*SG Group\*\***

**\*Transforming Resident Technology\***

**\*from Cost Center to Profit Center\***

**\*\*Prepared for\*\***

**\*\*SG Group Leadership\*\***

**\*\*Prepared by\*\***

**\*\*ResTech360 / RAS3 Communications \*\*\*\*&\*\*\*\* Consulting\*\***

Miami, Florida

# **\*\*Executive Summary\*\***

For decades, the multifamily real estate industry has treated resident technology services as a back-of-house cost center – a problem to be outsourced to a single Internet and TV provider in exchange for a modest **\*\*door fee\*\*** of roughly \$30 per unit per year. The Hotwire-style door fee model was designed for an era when telecommunications was a utility. That era is over.

Today, residents expect a **\*\*technology experience\*\*** – not a cable hookup. They evaluate properties on Wi-Fi performance, smart-home capability, streaming flexibility, and seamless tenant-app integration. Properties that deliver this experience command higher rents, achieve higher occupancy, and trade at premium valuations. Properties that don't, lose ground to those that do.

**\*\*ResTech360 proposes a fundamentally different partnership model with SG Group – one that captures the full economic value of resident technology and delivers it to the asset owner.\*\***

Instead of accepting a flat door fee, SG Group enters a profit-share partnership across the complete resident technology stack: bulk Internet, premium tier upsells, streaming TV, smart IoT systems, advertising revenue, and managed support. ResTech360 delivers a turnkey solution at every phase of the value chain – from low-voltage design through ongoing operations – and SG Group captures recurring NOI that compounds over the asset's hold period.

**\*\*The ResTech360 model can deliver \$300+ per unit per year in recurring profit-share to the developer – roughly 10x the industry-standard door fee – while simultaneously increasing asset valuation by an estimated \$4,500+ per unit at a 6% cap rate.\*\***

**### \*\*What this proposal contains\*\***

- **\*\*The Strategic Choice\*\*** – a side-by-side framing of the door fee model versus the ResTech360 partnership model.

- **\*\*The Financial Comparison\*\*** – a unit-level revenue stack, scaled to project size, with 10-year cumulative impact and asset valuation uplift.

- **\*\*The Turnkey Value Chain\*\*** – eight integrated phases of resident technology delivery, all managed under one accountable partner.

- **The ResTech360 Team** – three principals with combined decades of telecom, MDU, and developer-facing expertise.

- **Why ResTech360** – the strategic differentiators that no door-fee provider can match.

### # **The Strategic Choice**

Every multifamily developer faces the same crossroads when planning resident technology: accept a **door fee** from an exclusive provider, or **own the technology stack** and capture its full value. The choice has nothing to do with technology preference and everything to do with asset strategy.

<b>Dimension</b>	<b>Traditional Door Fee</b>	<b>ResTech360 Partnership</b>
<b>Revenue model</b>	Flat per-unit fee, paid by carrier	Recurring profit share across full tech stack
<b>Annual yield to developer</b>	~\$30/unit/year	\$300/unit/year base, with operated-ad upside to ~\$375
<b>Resident experience control</b>	Owned by carrier; developer has limited leverage	Owned by partnership; resident-first by design
<b>Vendor lock-in</b>	Exclusive contract, typically 7-10 years	Vendor-neutral; renegotiate as the market evolves
<b>Ad / ancillary revenue</b>	Captured by the carrier, not the asset	Captured by the partnership
<b>Asset valuation impact</b>	Negligible – door fee rarely capitalized	Material NOI uplift, capitalized at exit
<b>Technology refresh path</b>	Subject to carrier roadmap and contract terms	Designed for upgrade – fiber-ready, IoT-ready

### ## **Why the door fee model underperforms**

The door fee was created when broadband was a single product delivered by a single coax line. The carrier paid the developer a small access fee, took the residential subscription revenue, and walked away. That model leaks value in three places:

- **Single revenue stream.** The carrier monetizes one product (Internet/TV); all ancillary revenue – ads, IoT, premium tiers, support – is either uncaptured or captured by the carrier.

- **No alignment with asset performance.** The carrier is paid the same whether the resident experience is excellent or mediocre. The developer absorbs the reputational risk.

- **Locked-in obsolescence.** A 7-10 year exclusive freezes the asset to one carrier's technology roadmap, often well past the point of competitive parity.

### ## **Why the partnership model wins**

ResTech360 inverts the equation. The partnership owns the resident technology stack and earns from every revenue stream the building produces, while delivering a unified, accountable experience to residents and a single turnkey interface to the developer. Profit is shared transparently with SG Group as recurring income tied to the asset.

### # **The Financial Comparison**

This section models the per-unit economics of both options using conservative assumptions drawn from the current MDU technology market. All figures are presented per unit so the comparison scales linearly to any project size.

### ## **Door Fee Model – Baseline**

Industry reference point: Hotwire Communications and similar MDU carriers offer developers approximately **\*\*\$30 per unit per year\*\*** in exchange for a 7-10 year exclusive marketing agreement and bulk-billing arrangement (FCC orders prohibit fully exclusive service contracts for cable and broadband). Over a typical 10-year hold:

- **\*\*\$30\*\*** per unit per year
- **\*\*\$300\*\*** total per unit over 10 years
- **\*\*\$0\*\*** upside from premium tiers, IoT, advertising, or other ancillary revenue
- **\*\*Limited to negative influence\*\*** on resident experience, since the carrier owns the operational interface

## **\*\*ResTech360 Model – The Revenue Stack\*\***

Under the ResTech360 partnership, the building generates profit across five distinct revenue streams. The table below shows the per-unit profit pool produced each month, before profit-share allocation between SG Group and ResTech360.

<b>**Revenue Stream**</b>	<b>**Resident \$**</b>	<b>**Wholesale \$**</b>	<b>**Net Margin**</b>	<b>**Uptake**</b>	<b>**Weighted**</b>
<b>**Internet – Standard tier**</b>	\$50.00	\$20.00	\$30.00	90%	<b>**\$27.00**</b>
<b>**Internet – Premium tier**</b>	–	–	\$55.00	10%	<b>**\$5.50**</b>
<b>**Streaming TV bundle (DirecTV-class)**</b>	\$50.00	\$25.00	\$25.00	50%	<b>**\$12.50**</b>
<b>**Smart IoT (locks, thermostats, AI)**</b>	\$15.00	–	\$15.00	100%	<b>**\$15.00**</b>
<b>**Advertising – DOOH base**</b>	–	–	\$10.00	100%	<b>**\$10.00**</b>
<b>**Network monitoring &amp; support**</b>	–	–	\$10.00	100%	<b>**(\$10.00)**</b>
<b>**Total Profit Pool / Unit / Month**</b>					<b>**\$60.00**</b>
<b>**Total Profit Pool / Unit / Year**</b>					<b>**\$720.00**</b>

The total profit pool is shared between SG Group and ResTech360 under the partnership agreement. A target developer share of **\*\*\$300 per unit per year\*\*** (approximately 42% of the profit pool) is used in the comparisons below; final terms are negotiable based on capital deployment, lease-up risk allocation, and project scope.

**\*\*Operated-Ad Upside\*\*** The base-case advertising line uses a conservative DOOH (digital out-of-home) revenue-share assumption consistent with established networks such as Captivate and theBulletin. If the partnership operates the ad sales function end-to-end across digital signage, in-unit interstitials, and the management mobile app, an additional \$15/unit/month is achievable – bringing the profit pool to \$75/unit/month, \$900/unit/year, and the developer's target share to approximately \$375/unit/year.

## **\*\*Side-by-Side: Developer Yield Per Unit\*\***

<b>**Metric**</b>	<b>**Door Fee Model**</b>	<b>**ResTech360 Partnership**</b>	<b>**Differential**</b>
Per unit per year (developer share)	\$30	\$300	<b>**+\$270 (10.0x)**</b>
Cumulative per unit over 10 years	\$300	\$3,000	<b>**+\$2,700 (10.0x)**</b>
Asset value uplift / unit (6% cap)	~\$500	~\$5,000	<b>**+\$4,500 (10.0x)**</b>

Asset value uplift is calculated by capitalizing the recurring annual yield at a 6% cap rate, which is conservative for South Florida multifamily. At a 5% cap rate the differential expands further; at 7% it compresses but remains

substantial.

### ## \*\*Scaled to Project Size\*\*

The per-unit advantage scales linearly with project size. The table below shows cumulative 10-year developer-share differential and asset value uplift across representative MDU project sizes.

**Units**	**Door Fee – 10yr**	**ResTech360 – 10yr**	**10yr Differential**	**Asset Value Uplift @ 6%**
**100**	\$30,000	\$300,000	**+\$270,000**	**+\$450,000**
**250**	\$75,000	\$750,000	**+\$675,000**	**+\$1,125,000**
**500**	\$150,000	\$1,500,000	**+\$1,350,000**	**+\$2,250,000**
**1,000**	\$300,000	\$3,000,000	**+\$2,700,000**	**+\$4,500,000**
**2,500**	\$750,000	\$7,500,000	**+\$6,750,000**	**+\$11,250,000**

### ## \*\*Modeling Assumptions\*\*

- \*\*Internet – Standard: \*\*\$50/unit/month resident price, \$20/unit/month bulk wholesale, 90% of units. Wholesale rate is consistent with industry benchmarks: bulk MDU contracts typically reduce per-unit cost by 30-50% relative to retail (NMHC; Quantinium MDU benchmarks), with Quantum Fiber publicly citing developer rates as low as \$35/unit/month for gigabit fiber.
- \*\*Internet – Premium: \*\*\$55/unit/month net margin, 10% of units electing a premium tier.
- \*\*TV: \*\*\$50/unit/month resident, \$25/unit/month wholesale (bundled streaming such as DirecTV-class), 50% uptake.
- \*\*Smart IoT: \*\*\$15/unit/month margin from smart locks, thermostats, AI assistants, and integrated power management. Smart Rent-class platforms typically reduce common-area and unit-level power consumption by 20-30%.
- \*\*Advertising – DOOH base: \*\*\$10/unit/month from a revenue-share with an established residential digital out-of-home network (Captivate operates 23,000+ displays in 1,900+ premier office and residential buildings; theBulletin and Screenverse operate adjacent networks). Owner-operated ad sales across digital signage, in-unit interstitials, and the management mobile app can deliver an additional ~\$15/unit/month – handled separately as upside.
- \*\*Monitoring \*\*\*\*&\*\*\*\* support: \*\*\$10/unit/month operating cost via 24/7 NOC partner (Thrive-class).
- \*\*Door fee benchmark: \*\*\$30/unit/year, totaling \$300/unit over 10 years. Consistent with publicly cited MDU door-fee ranges of \$100+/unit for 7- to 10-year agreements (DojoNetworks).
- \*\*Cap rate: \*\*6% – conservative for South Florida multifamily.
- \*\*Hold period: \*\*10 years for cumulative comparison.

### # \*\*The Turnkey Value Chain\*\*

ResTech360's value to SG Group is not a single product – it is a **complete, integrated lifecycle** of resident technology delivery, managed under one accountable partner. Each phase is owned by ResTech360, removing the coordination burden from SG Group's development and operations teams while preserving SG Group's strategic control.

### ## \*\*1. Low-Voltage Design\*\*

ResTech360 engages best-in-class low-voltage consultants at the architectural

design phase to ensure the building's communications backbone is engineered for the next decade – not the last one. Our design philosophy emphasizes:

- Fiber-ready riser and horizontal pathways that accommodate gigabit and multi-gigabit residential service without re-pulls
- Distributed antenna systems (DAS) and Wi-Fi 7 readiness for ubiquitous campus coverage
- Provisions for future IoT density – sensors, smart locks, energy management, and life-safety integration
- MDF/IDF placement and conditioning that minimizes lifecycle installation, maintenance, and refresh costs

## ## \*\*2. Cabling and Systems Installation\*\*

ResTech360 brings construction-discipline rigor to low-voltage installation. We review every vendor quote for accuracy, scope alignment, and schedule compatibility with the construction project manager's master schedule. Installation contractors are pre-qualified and held accountable to delivery milestones, ensuring punch-list closure does not slip into resident move-in.

## ## \*\*3. Ecosystem of Low-Voltage Devices and Solutions\*\*

Modern multifamily buildings run a dozen or more low-voltage systems, each with its own vendor, contract, and operational handoff. ResTech360 acts as the single point of accountability across the entire ecosystem:

- Internet and Wi-Fi (residential and common-area)
- Television and streaming
- Access control and visitor management
- In-unit smart devices (locks, thermostats, lighting, AI assistants)
- Campus Wi-Fi and amenity-area connectivity
- Digital clubhouse amenities and concierge services
- Employee workstations and back-of-house IT
- Security cameras, fire, and life-safety system integration

## ## \*\*4. Maximizing Profit Margin Across the Stack\*\*

ResTech360 structures the resident technology offering as either a bundled **technology amenity fee** or à la carte services, depending on what the local market and lease-up strategy support. Within either structure, profit is maximized across four primary streams:

### ### \*\*Internet\*\*

Bulk procurement from multiple carriers gives residents choice while delivering wholesale economics to the partnership. Standard service averages **\$20/unit/month wholesale** billed to residents at **\$50/unit/month** – a **\$30/unit/month margin**. Approximately 10% of residents elect a premium tier yielding **\$55/unit/month margin**. Master-agent pricing achievable through ResTech360's relationships may improve on these benchmarks further.

### ### \*\*Streaming TV\*\*

Negotiated bundles such as DirectTV can be procured at **\$25/unit/month**

wholesale\*\* and resold at \*\*\$50/unit/month\*\* with no impact on residents who prefer their own streaming services. Modeled at 50% uptake.

### ### \*\*Smart IoT\*\*

Smart locks, smart thermostats, AI assistants, and integrated power management produce roughly \*\*\$15/unit/month\*\* of margin. Power management is the largest single contributor – Smart Rent-class providers monitor in-unit thermostats and reduce common-area and unit-level power bills by 20–30%, with savings flowing back to the partnership.

### ### \*\*Advertising Revenue\*\*

Residential digital out-of-home (DOOH) advertising is an established and growing category. Networks such as Captivate operate over 23,000 displays across 1,900+ premier office and residential buildings, with adjacent networks (theBulletin, Screenverse) extending the inventory further. Under a revenue-share with an established network, the partnership models a conservative \*\*\$10/unit/month\*\* base case. Where SG Group and ResTech360 elect to operate ad sales end-to-end across digital signage, in-unit TV interstitials, and the management mobile application, an additional \*\*~\$15/unit/month\*\* of upside is achievable. Either path is revenue the door fee model leaves entirely on the table.

### ## \*\*5. Negotiating Service Contracts\*\*

ResTech360 brings over 30 years of telecom-industry negotiating experience and active relationships with multiple master agents. Every service contract – Internet, TV, IoT, monitoring, advertising – is competitively bid and structured for renegotiation as the market evolves. SG Group is never locked into a single carrier's terms or roadmap.

### ## \*\*6. Network Monitoring and Support\*\*

ResTech360 partners with enterprise-grade NOC providers such as Thrive to deliver 24/7 network monitoring and resident technical support at approximately \*\*\$10/unit/month\*\*. Residents call one number, and issues are triaged and escalated without burdening on-site property management.

### ## \*\*7. Resident Technology Experience\*\*

Resident satisfaction with technology directly affects renewal rates, online review scores, and willingness to pay premium rents. ResTech360 surveys residents quarterly for satisfaction and improvement feedback, and operationalizes the findings into the next refresh cycle. The resident experience is, by design, the strongest competitive moat against neighboring properties.

### ## \*\*8. Closed-Loop Lifecycle Management\*\*

Each phase of the value chain feeds the next. Design decisions inform installation. Installation quality drives operational reliability. Operational data informs vendor renegotiation. Resident feedback informs the next refresh. The result is a building that improves its technology ROI year over year – the opposite of the carrier-controlled door fee model, which degrades over the term of the exclusive.

### # \*\*The ResTech360 Team\*\*

ResTech360 is led by three principals whose combined experience spans telecommunications brokerage, MDU operations, business development, and developer-facing strategy. All three are operating principals at RAS3 Communications & Consulting, the Miami-based telecom brokerage that originated the ResTech360 venture, and bring a single coordinated interface to SG Group.

## \*\*Richard Shellow\*\*

\*\*Principal \*\*\*\*&\*\*\*\* Founder, RAS3 Communications \*\*\*\*&\*\*\*\* Consulting – Strategic \*\*\*\*&\*\*\*\* Regulatory Lead\*\*

Richard founded RAS3 Communications & Consulting in 2001 and brings more than 35 years of telecommunications industry experience to the ResTech360 partnership. RAS3 has operated as a premier broker of carrier services for more than two decades, focusing on cost-effective networking and communications solutions for businesses across South Florida. On the ResTech360 team, Richard anchors strategic direction, regulatory navigation, and partnership structuring – ensuring that agreements with SG Group and the underlying carrier and vendor counterparties protect developer interests and remain aligned with evolving FCC and state-level telecommunications regulation.

## \*\*David Ames\*\*

\*\*Principal \*\*\*\*&\*\*\*\* Head of Business Development, RAS3 Communications \*\*\*\*&\*\*\*\* Consulting – Operations Lead\*\*

David serves as Head of Business Development at RAS3 Communications & Consulting and brings prior leadership experience from Virtualization Advisors. On the ResTech360 team, David leads the operational rhythm of the partnership: vendor relationship management, installation oversight, and the day-to-day execution that keeps multi-system MDU projects delivering on schedule and on budget. David and PJ have worked together as principals at RAS3, providing continuity of approach across the partnership's developer-facing engagements.

## \*\*PJ Buhler\*\*

\*\*Principal \*\*\*\*&\*\*\*\* Telecommunications Consultant, RAS3 Communications \*\*\*\*&\*\*\*\* Consulting – Developer Strategy Lead\*\*

PJ is a Principal and Telecommunications Consultant at RAS3, where his practice focuses on optimizing communication infrastructure for businesses across diverse industries through master-agent relationships with over 125 communication providers. He holds a Bachelor of Business Administration from the University of Miami and brings prior experience from Ivanti, LANDESK Software, BrightStar Care, and BankUnited. Within the ResTech360 partnership, PJ leads developer-facing strategy, financial modeling, and the carrier-relationship work that converts each phase of the value chain into recurring profit for the asset. PJ's prior project experience includes telecommunications infrastructure planning on large-scale South Florida multifamily developments.

# \*\*Why ResTech360\*\*

Several capable parties can sell SG Group a single low-voltage system. None of them can deliver what ResTech360 delivers. The partnership's structural advantages over both door-fee carriers and traditional consultants are listed below.

## \*\*Profit alignment, not access alignment\*\*

A door-fee carrier is paid for access to the building. ResTech360 is paid for the building's **performance**. Every dollar ResTech360 earns is a dollar SG Group also earns, because the partnership shares the profit pool. There is no scenario where our incentives diverge.

## \*\*Vendor-neutral by design\*\*

ResTech360 is not a carrier and does not own a network. We negotiate with every major Internet provider, every major TV bundle, every major IoT platform, and every major NOC partner – and we replace any of them when the market gives SG Group a better option. The partnership is not locked into anyone's roadmap.

### ## \*\*Turnkey across the full lifecycle\*\*

From the first low-voltage drawing to the quarterly resident satisfaction survey, ResTech360 owns the entire technology lifecycle. SG Group has one accountable partner instead of a dozen vendors, a dozen contracts, and a dozen handoff points where things slip.

### ## \*\*Decades of South Florida MDU experience\*\*

RAS3 has operated in South Florida's MDU and multifamily telecom market since 2001. We know the local carrier landscape, the building-department dynamics, the master-agent ecosystem, and the operational realities of South Florida properties – including the climate, hurricane-resilience, and code-compliance considerations that out-of-market providers routinely miss.

### ## \*\*Asset-strategy framing, not vendor framing\*\*

ResTech360 treats telecommunications infrastructure as a **revenue-generating asset**, not a cost center. Every recommendation we make to SG Group is evaluated against its impact on NOI, cap-rate-capitalized asset value, and resident retention. That framing is fundamentally different from the cost-minimization framing of a traditional vendor or carrier.

### ## \*\*Built for what comes next\*\*

Resident expectations for technology are accelerating. Wi-Fi 7, AI-enabled units, energy-management mandates, and integrated experience platforms are not five-year-out concerns – they are 18-month concerns. ResTech360 designs and delivers buildings that are ready for the next wave, not retrofitted into it after residents start defecting to neighbors who got there first.

### # \*\*Recommended Next Steps\*\*

ResTech360 proposes a structured engagement with SG Group in three phases, each with clear deliverables and decision points.

#### ## \*\*Phase 1 – Project-Specific Modeling (2 weeks)\*\*

ResTech360 takes the financial framework in this proposal and applies it to a specific SG Group asset (or asset cohort). Deliverables:

- Per-project profit-pool model with SG Group's actual unit count, lease-up assumptions, and operating profile
- Recommended profit-share structure with sensitivity analysis at conservative, target, and optimized scenarios
- Asset valuation impact at SG Group's actual cap rate
- Comparison to any specific door-fee proposals SG Group has on the table

#### ## \*\*Phase 2 – Partnership Term Sheet (2–3 weeks)\*\*

Working from the project-specific model, ResTech360 and SG Group negotiate a term sheet covering:

- Profit-share percentage and waterfall
- Capital responsibilities and pre-development cost allocation
- Term, renewal, and termination provisions
- Performance benchmarks and resident-experience commitments

- Exclusivity, vendor-replacement rights, and reporting cadence

### ## \*\*Phase 3 – Project Mobilization\*\*

Upon executed term sheet, ResTech360 mobilizes against the value chain – beginning with low-voltage design coordination at the architectural phase if the project is pre-construction, or with vendor audit and ecosystem integration if the project is operational.

### ## \*\*Decision Window\*\*

The largest financial advantage of the ResTech360 model is captured when the partnership is engaged **before low-voltage design is finalized**. Each subsequent phase still produces meaningful upside over the door fee model, but design-phase engagement maximizes both the revenue stack and the asset value uplift over the hold period.

**ResTech360 welcomes the opportunity to present this proposal to SG Group leadership in person and to begin Phase 1 modeling against a specific asset. Please contact PJ Buhler at RAS3 Communications & Consulting to schedule a working session.**

### # **Sources & References**

The following public sources support the financial assumptions and industry context referenced in this proposal. Master-agent pricing relationships used by ResTech360 may yield economics that differ from these public benchmarks; this proposal uses the more conservative benchmark figures.

### ## **Bulk Internet & MDU Telecommunications**

- **National Multifamily Housing Council. Frequently Asked Questions: Bulk Internet in Rental Housing.** nmhc.org. (Documents the FCC's endorsement of bulk billing arrangements for MDU residents.)
- **Quantum Fiber. How multifamily properties can secure favorable bulk fiber contracts.** multifamilyresources.quantumfiber.com. (Cites developer wholesale rates as low as \$35/unit/month for gigabit fiber.)
- **Quantinium. Bulk Internet Model Explained: Benefits, Costs, and Implementation Guide for 2026.** quantumwi.fi. (Industry guide documenting 30-50% per-unit cost reduction under bulk MDU contracts.)
- **Lumos Fiber. What Is a Bulk MDU Agreement?** lumosfiber.com. (Industry overview of bulk MDU pricing structure and resident benefits.)
- **DojoNetworks. Negotiating Telecom Contracts for MDUs: Pitfalls to Consider.** dojonetworks.com. (Cites door fees of \$100+ per unit for 7-10 year MDU agreements.)

### ## **Residential Digital Out-of-Home Advertising**

- **Captivate / BusinessWire. Captivate operates more than 23,000 high-resolution displays in over 1,900 premier office and residential buildings across the U.S. (Establishes scale and viability of the residential DOOH category.)**
- **Screenverse. Residential & office digital out-of-home advertising.** screenversemedia.com. (Documents adjacent network theBulletin: 9,500+ screens, 3.5B+ monthly impressions.)
- **National Apartment Association. NSC Insider: Outlining the Advantages of**

Digital Signage in Modern Multifamily Living. naahq.org. (Industry perspective on digital signage as resident communication and ancillary revenue channel.)

## \*\*Multifamily Renter Preferences\*\*

- \*\*National Multifamily Housing Council. \*\*2025 Renter Preferences Survey, as cited in Quantinium MDU industry guide. (89% of renters rank reliable internet as their top amenity priority.)

## \*\*FCC Regulatory Framework\*\*

- \*\*FCC Order MB Docket 07-51. \*\*Exclusive Service Contracts for Provision of Video Services in Multiple Dwelling Units (2007/2008). (Prohibits exclusive service contracts; permits exclusive marketing agreements and bulk-billing arrangements.)

\*Sources accessed and verified prior to issuance of this proposal. Where ResTech360 master-agent pricing differs from public benchmarks, the more conservative public benchmark has been used in modeling assumptions.\*