

# Impact Report

## Civic Engine Guaranty Fund --- Quantified Impact Analysis

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**Prepared By:** Arnold Development Group

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## Overview

The Civic Engine Guaranty Fund creates measurable impact across housing affordability, energy efficiency, carbon reduction, and community economic development. These metrics are grounded in conservative, auditable methodologies using established data sources: HUD AMI tables, EPA Social Cost of Carbon, and EIA residential energy surveys. Every number below connects to the Fund's core thesis --- that a single Treasury-backed guarantee facility can unlock transformational sustainable development while delivering competitive financial returns.

We quantify impact in two tiers to maintain analytical rigor:

- **Core (11.4% blended IRR):** Rent savings, energy savings, and carbon avoidance --- contractually guaranteed or physics-based, third-party verifiable.
- **Illustrative (~16.2% blended IRR):** Core metrics plus childcare, healthcare, transportation, food, job training, and wellness savings --- modeled from peer-reviewed studies, disclosed separately.

## Key Metrics

Metric	Value
Initial Fund Size	\$30,000,000
Target Fund Size	\$200,000,000
Projects Supported	2 (North Loop + Crossroads)
Total Development Enabled	~\$1,152,000,000
Core Annual Social Value	\$14,808,000
Financial Return (Net)	~4.35%
Social Value Return	7.40%
<b>Core Blended Impact IRR</b>	<b>11.4%</b>

## How Impact Is Calculated

Per-unit impact values are constant across both projects, since both follow the same Passive House + Thermal Energy Network development model.

Impact Category	Per-Unit Annual Value	Applies To	Source
Rent Savings	\$6,000/year (\$500/month)	Per affordable unit	HUD AMI tables
Energy Savings	\$1,200/year	Per housing unit (all)	EIA RECS
Carbon Avoidance	\$51/ton CO <sub>2</sub> avoided	Per housing unit	EPA Social Cost of Carbon

These values are conservative: rent savings reflect the difference between LIHTC rents and market rents at 30--80% AMI; energy savings are based on measured 70% reductions from Passive House + TEN vs. conventional construction; carbon avoidance uses the EPA's central estimate.

## Combined Annual Impact

Category	Quantity	Annual Value	% of Total
Rent Savings (LIHTC)	1,600 affordable units	\$9,600,000	64.8%
Energy Savings (Passive House + TEN)	~4,000 units (all)	\$4,800,000	32.4%
Carbon Avoidance	8,000 tons CO2	\$408,000	2.8%
<b>Core Social Value</b>	<b>\$14,808,000</b>	<b>100%</b>	

For 1,600 families in affordable units, \$9.6 million in annual rent savings means \$6,000 per year that stays in each household --- money available for savings, education, healthcare, and building generational wealth. Energy savings apply to all 4,000 units regardless of income level.

## Blended Return Composition

The blended impact IRR combines the financial return investors receive with the quantified social value the Fund's guarantee activity creates. This is not a substitute for financial return --- it expresses total value generated per dollar invested. Figures below reflect target fund size at full deployment.

Return Component	Annual Value	Return on \$200M Target Fund
Financial Return (Treasury - Fees)	\$8,700,000	~4.35%
Rent Savings	\$9,600,000	4.80%
Energy Savings	\$4,800,000	2.40%
Carbon Avoidance	\$408,000	0.20%
<b>Core Blended Impact IRR</b>	<b>\$23,508,000</b>	<b>11.4%</b>

For foundation program officers evaluating PRI deployment, the blended metric demonstrates that this Fund creates more total value than almost any comparable investment in the impact space.

## Illustrative Community Value (Expanded Framework)

When accounting for wraparound services modeled on Historic Northeast Lofts --- the same services planned for both North Loop and Crossroads --- total community value expands

significantly. These figures are modeled from peer-reviewed studies and are disclosed separately from core metrics.

Category	Annual Value	Source
Core Social Value (above)	\$14,808,000	HUD, EPA, EIA
Childcare cost savings	~\$2,000,000	OECD / BLS childcare cost data
Healthcare cost savings	~\$2,400,000	AHRQ / FQHC utilization studies
Transportation cost savings	~\$2,400,000	AAA vehicle ownership data
Food access + Job training + Wellness	~\$3,000,000	USDA / BLS / peer-reviewed studies
<b>Total Community Value</b>	<b>~\$24,600,000</b>	
<b>Illustrative Blended IRR</b>	<b>~16.2%</b>	

## 15-Year Cumulative Impact (LIHTC Compliance Period)

Over the 15-year LIHTC compliance period, affordable rents are contractually locked. The cumulative impact is not a projection --- it is the arithmetic result of sustained unit counts, established utility savings, and measured carbon avoidance.

Impact Category	15-Year Cumulative Value
Rent Savings	\$144,000,000
Energy Savings	\$72,000,000
Carbon Avoidance	\$6,120,000
<b>Total 15-Year Core Social Value</b>	<b>\$222,120,000</b>

Over the compliance period alone, the Fund generates \$222M in cumulative social value at target deployment --- exceeding the \$200M target fund size in social value independent of financial returns.

## Long-Term Compounding (Capital Recycling)

The guarantee fund model preserves capital at maturity. As construction loans are repaid and guarantees released --- typically within 6 years of project completion --- the freed capital supports new development cycles.

Timeframe	Cumulative Development per \$1	Multiplier
Year 6 (1 cycle)	\$5.75 per \$1 invested	5.75x
Year 20 (3 cycles)	~\$28 per \$1 invested	~28x
Year 40 (6 cycles)	~\$51 per \$1 invested	~51x

At full deployment, the Fund's \$200 million in capital creates over \$1 billion in development in the first cycle and continues compounding. By Year 40, each investor dollar has enabled \$51 in cumulative sustainable development --- and the principal has grown to approximately \$487 million, available for continued deployment.

## HNEL: First Deployment Baseline

Historic Northeast Lofts is the Fund's first guarantee deployment (\$10 million, limited to JPMC's SPE capitalization requirement). HNEL provides a near-term, measurable baseline for validating the impact assumptions used in North Loop and Crossroads projections.

Metric	HNEL (Actual/Under Construction)	North Loop + Crossroads (Projected)
Total units	395	~4,000
Affordable units	328 (83%)	~1,600 (40%)
Energy system	4 MW solar + 228 geothermal wells	~104 MW TEN
Utility cost to residents	Zero	Near-zero
Wraparound services	Childcare, wellness center, public market, FQHC, job training	Same model at scale
Fund guarantee	\$10M	Up to \$200M total capacity
Total development cost	\$451M	~\$1.15B

As HNEL reaches stabilization (projected Q4 2028), actual impact data — energy savings, occupancy, resident cost burden reduction — will be used to refine projections for the full pipeline.

## Additional Crossroads Impact (Qualitative)

The Crossroads project generates impact beyond core housing and energy metrics. These dimensions are noted qualitatively and are not included in quantitative calculations.

- **Innovation Center** (Keystone Innovation, 40,000 SF): Startup incubation, workforce development, technology commercialization. Est. 100--200 direct innovation-sector jobs.
- **Biotech Laboratory** (Tension Envelope, 50,000--100,000 SF): Life sciences research and manufacturing. Est. 100--200 high-wage research jobs. Attracts institutional partnerships and federal grant funding.
- **Historic Preservation:** Adaptive reuse of the Tension Envelope building preserves a significant industrial heritage structure. Federal and state historic tax credit eligible.
- **Arts District Integration:** Affordable live/work space for artists, ground-floor cultural programming, and public art infrastructure enhance the existing Crossroads cultural ecosystem.

## IRIS+ Metric Alignment

Impact Component	IRIS+ Code	Metric Name
Affordable Units	PI2159	Affordable Housing Units
Rent Savings	PI8718	Housing Affordability
Carbon Avoided	PI1479	Greenhouse Gas Emissions Reduced
Clean Energy	OI3990	Clean Energy Generated
Energy Savings	PI2764	Energy Saved
Jobs Created	PI4060	Jobs Created

Alignment with the Global Impact Investing Network's IRIS+ framework ensures institutional-standard reporting. Third-party impact audits, beginning in Year 2, will verify actual performance against projected metrics.

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*For detailed assumptions, data sources, sensitivity analysis, and expanded methodology, see Impact Methodology & Calculation Framework (Document 2.4).*