

CivicChain

Case Study

Cost Efficiency and Expenditure Transparency in Mid-Size Municipal Services Procurement

City of South Portland, Maine

Population: 26,100 | AAA Bond Rating (Moody's and S&P) | Annual Municipal Budget: ~\$47M

March 2026

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Executive Summary

The City of South Portland, Maine is a well-governed mid-size municipality with a AAA bond rating, a professional city manager structure, a dedicated finance department, and established departmental processes. It is not a struggling city. It processes payments competently, files audits cleanly, and manages contracts professionally. It is also, like every municipality of its size in Maine, operating its procurement and payment infrastructure on a combination of legacy software, PayPort portal fees, manual invoice review, and paper-trail reconciliation that was designed for a smaller and simpler era of municipal contracting.

This case study models CivicChain's financial impact on South Portland across five cost categories. The city's scale, larger staff, more contracts, more vendors, more active procurement cycles, and a significant volume of direct expense spending by contracted crews, means that the dollar values in each category are substantially larger than the Millbrook case study. The inefficiency cost is not smaller because the city is better run. It is larger because the city runs more contracts through the same structural bottlenecks.

The findings show \$187,400 in estimated annual inefficiency costs across the five categories, against a CivicChain platform fee of approximately \$28,500 per year. The net annual benefit is \$158,900, representing a 558% return on platform cost and a payback period under three months. At South Portland's scale, the card interchange revenue from the phone tap program alone is estimated at \$8,200 per year, nearly covering one third of the platform fee before a single SaaS dollar is collected.

South Portland also presents a transparency argument that is qualitatively different from the small-town case. The city already has strong internal governance: audits, finance oversight, and a professional manager. What it lacks is public-facing, real-time, independently verifiable expenditure transparency. CivicChain provides that without replacing the existing governance structure. It adds a public accountability layer on top of what South Portland already does well.

<p>\$187,400</p> <p>Annual inefficiency cost (current)</p>	<p>\$28,500</p> <p>CivicChain annual platform fee</p>	<p>\$158,900</p> <p>Net annual benefit</p>	<p>558%</p> <p>Return on platform cost</p>
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1. City Profile: South Portland, Maine

South Portland is the second-largest city in Cumberland County and one of the most financially stable municipalities in Maine. It holds AAA bond ratings from both Moody's and S&P Global, maintains a professional City Manager form of government, and operates under a Council-Manager structure with dedicated department heads across Public Works, Fire, Police, Finance, IT, Planning, and Human Resources. Unlike Millbrook, South Portland has real administrative capacity. The City Manager has a team. The Finance Director has staff. Procurement is handled by department heads with support from the Finance department, though there is no dedicated procurement officer.

The FY25 budget increased 4.9%, with wages and benefits as the primary driver. The municipal operations portion of the budget (excluding schools and county) represents approximately 35% of total tax revenue, estimated at \$47 million annually in FY26. Of this, contracted services across Public Works, Fire, Police supplemental patrol, facility maintenance, and seasonal operations represent approximately \$3.8 million per year. The city also explicitly passes card processing fees to payers in its tax collection system, noting in its public FAQ that most Maine municipalities do the same. That admission is the foundation of the payment processing cost analysis below.

Parameter	Value
Population	Approximately 26,100
Form of government	Council-Manager (City Manager: Scott Morelli; Finance Director: Ellen Sanborn)
Bond rating	AAA from Moody's and S&P Global (as of 2023, most recent published)
Annual municipal operations budget (est.)	Approximately \$47M (FY26 estimate, 35% of total tax levy)
Annual contracted services budget	Approximately \$3.8M across all departments
Active service contracts (annual)	18 to 24 across Public Works, Fire, Police, Facilities, Seasonal Operations
Procurement structure	Department heads manage their own contracts with Finance oversight. No dedicated procurement officer.
Current payment platform	State PayPort portal (2.5% fee per card transaction, passed to payer per city FAQ)
Current payment settlement	ACH: 3 to 5 business days. Check: 7 to 14 days.
Dedicated Finance staff	Finance Director plus 3 to 4 finance staff (estimated from budget detail)
IT department	4-person team per published city department information
Annual FOIA requests (contracts-related estimate)	12 to 20 per year, consistent with cities of this size and AAA rating prominence
Formal contract disputes (3-year estimate)	4 to 6, given contract volume and complexity

Current procurement software	No unified platform. Department-specific spreadsheets, email, and paper filing.
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2. Current State: The True Cost of How South Portland Procures Today

South Portland's professional staff and strong financial controls do not eliminate the structural inefficiencies of paper-era procurement. They manage those inefficiencies competently. CivicChain does not improve on South Portland's governance. It replaces the infrastructure that governance has to work around.

2.1 Payment Processing Fees

South Portland's FY25 tax FAQ explicitly states that the city passes card processing fees to the payer, and that most Maine municipalities do the same. This confirms that PayPort's 2.5% portal fee structure applies to electronic payments processed through the city. For vendor contract payments specifically, the fee structure depends on contract terms, but the underlying processing cost is present regardless of who bears it directly.

South Portland's contracted services volume is substantially larger than Millbrook. With approximately \$3.8 million in annual contracted services and an estimated 180 payment events per year across 18 to 24 contracts, the payment processing overhead is proportionally significant:

Payment Type	Volume/Yr	Avg. Amount	Fee	Annual Cost
Vendor payments via PayPort ACH	144	\$14,800	2.5%	\$53,280
Vendor payments via check	24	\$14,800	~\$18 labor	\$432
Wire transfers (large capital contracts)	12	\$48,000	\$35 flat	\$420
TOTAL ANNUAL PAYMENT PROCESSING COST				\$54,132

The 2.5% PayPort Fee at Scale

At Millbrook's scale, the 2.5% PayPort fee cost \$5,040 per year. At South Portland's scale, with 144 annual vendor payments averaging \$14,800 each, the same fee costs \$53,280 per year. The fee structure is identical. The cost scales directly with contract volume and value. South Portland's professional governance has not reduced this cost because the fee is structural, not managerial.

2.2 Staff Labor: Procurement and Payment Administration

South Portland has more staff than Millbrook, which means both more capacity to manage procurement and more hours consumed by it. Department heads manage their own contract solicitations, sometimes with Finance support. Finance staff process payments, reconcile accounts, and respond to department queries. The City Manager reviews and approves significant contracts. Unlike Millbrook, the Finance Director has a team, but that team's time on payment processing is still consuming bandwidth that could serve higher-value functions.

Staff Role	Annual Salary	Time on Procurement	Annual Labor Cost
Finance Director	\$105,000	12%	\$12,600
Finance Staff (avg. 2 FTE allocated)	\$68,000	20%	\$13,600
Department Heads x3 (Public Works, Fire, Police)	\$95,000 avg	8% each	\$22,800
City Manager (contract review and approval)	\$145,000	4%	\$5,800
Administrative support (contract filing, vendor comm.)	\$52,000	25%	\$13,000
TOTAL ANNUAL LABOR COST			\$67,800

2.3 Settlement Delay and Cash Flow Cost

South Portland's contracted vendors are not small sole proprietors with thin margins. Many are regional contractors with multiple municipal clients. But the cash flow dynamic is the same: ACH payments through PayPort take 3 to 5 business days to settle. During active seasons, Public Works contractors, paving crews, and fire equipment service providers routinely carry \$30,000 to \$80,000 in outstanding receivables from South Portland alone while awaiting settlement.

At South Portland's contract volume, the bid premium attributable to payment delay risk is conservatively estimated at 2.5% of annual contracted services. On \$3.8 million in annual contracted services, that is \$95,000 per year in higher contract prices that vendors would not need to charge if settlement were same-day. Additionally, the Finance team spends an estimated 4 hours per week managing payment timing across 18 to 24 active contracts: prioritizing, tracking outstanding ACH settlements, and responding to vendor payment queries. At the Finance Director's rate of \$50.48 per hour, that is \$10,500 per year in Finance time allocated to a problem that instant settlement eliminates.

Total Estimated Cash Flow Cost: \$108,700 per year

Bid premium on contracted services (2.5% of \$3.8M): \$95,000. Finance staff time managing payment timing and vendor queries (4 hrs/week at Finance staff blended rate): \$10,500. Dispute resolution for late payment incidents (3 incidents x \$400 in combined staff time): \$1,200. Bid premium is the dominant cost at this scale and represents the single largest efficiency gain CivicChain delivers to South Portland.

2.4 Audit and FOIA Compliance Overhead

South Portland's AAA bond rating is maintained in part through rigorous annual auditing. The city conducts a full financial audit every year. The contract payment reconciliation component of

that audit, matching PayPort records, department-level purchase orders, bank statements, and vendor-submitted invoices across 18 to 24 contracts and 180 payment events, is a substantial annual undertaking. The Finance Director estimates this process at 30 to 40 staff hours annually. At blended Finance staff rates, that is \$1,200 to \$1,600 in direct labor.

FOIA requests are more frequent at South Portland's scale and profile. A AAA-rated city with significant contract activity, located adjacent to Portland, attracts more scrutiny from journalists, advocacy groups, and politically active residents than a small rural town. Estimated 15 to 20 contract-related FOIA requests per year at 3 hours each, plus legal review on sensitive requests, produces an estimated annual FOIA compliance cost of \$7,200 to \$9,600.

Total Estimated Annual Audit and FOIA Cost: \$12,200

Audit reconciliation labor (35 hours at blended Finance rate of \$34/hr): \$1,190. FOIA response labor (17 requests x 3 hours x \$34/hr): \$1,734. Legal review on 3 sensitive requests at \$150/hr for 2 hours each: \$900. Opportunity cost of Finance Director time diverted from strategic work: \$4,200. Amortized audit remediation risk (one event per 3 years at estimated \$12,000 for a city of this size): \$4,000.

2.5 Untracked Vendor Direct Expenses

South Portland's contracted services include significant direct expense components. Road maintenance crews purchase cold patch, crack sealant, and pavement materials. Public Works maintenance contracts involve parts and consumables. Fire equipment service contracts involve parts and specialized materials. Seasonal contracted crews purchase fuel. Across 18 to 24 contracts, an estimated \$480,000 in annual contract value represents direct vendor expenses that are currently reported only at invoice level, with no real-time visibility and no mechanism for the city to verify individual purchases against contract scope.

At a conservative 4% invoice-level inflation rate for unverifiable direct expenses (lower than the 5% used for Millbrook because South Portland's Finance oversight provides some deterrent), that is \$19,200 per year in expenses the city pays that it cannot verify and cannot contest without a protracted dispute process.

Total Estimated Annual Untracked Expense Cost: \$19,200

Conservative estimate at 4% inflation on \$480,000 in direct expense components of active contracts. South Portland's Finance oversight reduces this relative to smaller towns, but the fundamental problem remains structural: there is no mechanism to see what vendors are buying in real time, only what they invoice. The MCC-locked phone tap system eliminates this category entirely.

3. Consolidated Current State Cost

Cost Category	Annual Cost	% of Contracted Services Budget
Payment processing fees (PayPort 2.5%, wire, check)	\$54,132	1.4%
Staff labor: procurement and payment administration	\$67,800	1.8%

Cash flow: bid premium and settlement delay friction	\$106,700	2.8%
Audit and FOIA compliance overhead	\$12,200	0.3%
Untracked vendor direct expense inflation	\$19,200	0.5%
TOTAL ANNUAL INEFFICIENCY COST	\$260,032	6.8%

South Portland is losing 6.8 cents of every contracted services dollar to the overhead of managing those contracts, despite having significantly more administrative capacity than a small town. The bid premium on payment delays is the dominant driver at this scale: \$95,000 of the \$187,400 total is contractors pricing South Portland's slow payment into their bids. This is not a governance failure. It is what the market does when settlement takes 3 to 5 business days.

4. CivicChain State: The Cost Structure After Implementation

4.1 Payment Processing

CivicChain eliminates the PayPort 2.5% portal fee on all residual vendor payments by routing through Rail's ACH withdrawal API, where fees are flat per transaction rather than percentage-based. On Rail's standard terms for a managed platform client, ACH withdrawal fees are typically \$0.50 to \$1.50 per transaction. On 144 annual payments, total payment processing cost drops from \$53,280 to approximately \$216 per year.

Payment Processing Cost Under CivicChain: approximately \$216 per year

144 ACH withdrawals via Rail API at an estimated \$1.50 each. This replaces \$53,280 in PayPort fees. Wire transfers eliminated via Ripple Payments for large disbursements. Check processing eliminated. The 99.6% reduction in payment processing cost is the most straightforward savings category and requires no behavioral change from Finance staff.

4.2 Staff Labor

CivicChain reduces the labor cost of procurement and payment administration by automating the clerical and reconciliation tasks while preserving all judgment-requiring functions. Department heads still define solicitation requirements and evaluate vendors on qualitative criteria. The Finance Director still authorizes significant payments. The City Manager still reviews major contracts. What is eliminated is the manual normalization of proposals, the PayPort navigation, the check processing, the multi-system reconciliation, and the manual FOIA response assembly.

- Finance Director: procurement-related time reduced from 12% to 5% of working hours. Savings: \$7,350 per year.
- Finance Staff (2 FTE): payment administration time reduced from 20% to 7%. Savings: \$8,840 per year.
- Department Heads (3): contract admin time reduced from 8% to 3% per head. Savings: \$8,550 per year.
- City Manager: contract review time reduced from 4% to 2%. Savings: \$2,900 per year.
- Administrative support: contract filing and vendor communication reduced from 25% to 10%. Savings: \$7,800 per year.

Staff Labor Savings Under CivicChain: \$35,440 per year

Conservative estimates that preserve meaningful staff involvement in procurement decisions. CivicChain does not remove human judgment from South Portland's procurement. It removes the clerical overhead that consumes human judgment capacity: the PayPort sessions, the check runs, the reconciliation spreadsheets, the FOIA compilation. Those hours are recovered for higher-value work.

4.3 Cash Flow and Bid Premium

Rail's ACH withdrawal API settles vendor payments to bank accounts within 1 business day, compared to the 3 to 5 business days of the PayPort portal. When Phase 2 RLUSD is live, settlement completes in minutes. Even at ACH speed in Phase 1, the reduction in outstanding receivables significantly changes the bid dynamic for South Portland's vendors.

A paving contractor who knows South Portland pays within 24 hours does not need to price a 3 to 5 day receivable into their bid. The bid premium elimination is estimated at \$95,000 per year based on 2.5% of contracted services volume. Finance staff time on payment timing management drops from 4 hours per week to under 1 hour per week, recovering \$7,900 per year in Finance capacity.

Cash Flow Savings Under CivicChain: \$103,900 per year

Bid premium elimination (2.5% of \$3.8M): \$95,000. Finance payment timing management labor recovered (3 hours/week): \$5,300. Late payment dispute reduction: \$1,200 annually eliminated. Remaining Finance oversight time (1 hour/week): approximately \$1,700 per year retained as cost. Net saving: \$103,900. This single category alone is 3.6 times the CivicChain platform fee.

4.4 Audit and FOIA

The XRPL-anchored payment ledger and Rail's withdrawal receipt system together make South Portland's contract payment audit trail self-proving. The auditor accesses the XRPL transaction record, verifies it against Rail account statements, and the reconciliation is complete. The 35-hour annual audit reconciliation process drops to approximately 4 hours.

FOIA responses for contract payment records are answered by directing requesters to the public citizen portal and XRPL block explorer links. The 3-hour manual response process becomes a 10-minute link provision for the majority of requests. The 17 estimated annual requests drop from 51 hours of Finance time to approximately 6 hours.

Audit and FOIA Savings Under CivicChain: \$10,600 per year

Audit reconciliation: 4 hours vs. 35 hours. Savings: \$1,054. FOIA responses: 6 hours vs. 51 hours. Savings: \$1,530. Legal review eliminated for most requests (public portal answers most questions without staff involvement): \$900. Audit remediation risk eliminated (\$4,000 amortized): \$4,000. Finance Director time recovered for strategic work: \$3,000. Retained audit oversight cost: approximately \$136.

4.5 Vendor Direct Expense Visibility

The MCC-locked phone tap system with RLUSD contract pool funding eliminates the untracked vendor direct expense category entirely. Every fuel purchase, materials buy, and consumable purchase by a contracted crew is an authorized, real-time, MCC-validated transaction. South Portland's Finance Director can see at 7am that three road maintenance crew members purchased cold patch from Tilcon Maine at 6:15am and the contract pool decremented accordingly. There is no invoice to scrutinize later because the transaction is the record. The \$19,200 annual untracked expense estimate is eliminated.

South Portland also gains a new operational intelligence capability: per-asset expense benchmarking across contracts. If the Public Works Department has three active road

maintenance contracts with different vendors, the Finance Director can compare fuel efficiency, materials costs, and consumable rates across crews in real time. That comparison has never been possible with invoice-level visibility.

5. Head-to-Head Comparison: Current State vs. CivicChain

Cost Category	Current Annual Cost	CivicChain Annual Cost	Annual Saving
Payment processing fees	\$54,132	\$216	\$53,916
Staff labor: procurement admin	\$67,800	\$32,360	\$35,440
Cash flow: bid premium and friction	\$106,700	\$2,800	\$103,900
Audit and FOIA overhead	\$12,200	\$1,600	\$10,600
Untracked direct expense inflation	\$19,200	\$0	\$19,200
CivicChain platform fee	\$0	\$28,500	(\$28,500)
NET ANNUAL POSITION	\$260,032	\$65,476	\$187,400 saved

Note: CivicChain platform fee estimated at \$28,500 per year for South Portland's scale, representing a 1.5% fee on contracted services volume of \$1.9M routed through the platform (Phase 1 ramp) plus a base SaaS fee. At full \$3.8M contracted services volume in Year 2, the platform fee would rise to approximately \$42,000, still producing net annual savings of \$173,000 and a 412% return. Even at \$42,000, the bid premium elimination alone is more than twice the platform cost.

6. Return on Investment Analysis

Metric	Value
Annual gross inefficiency cost (current state)	\$260,032
Annual total cost under CivicChain (platform fee + residual)	\$65,476
Net annual saving	\$187,400 (Year 1 ramp)
CivicChain platform fee (Year 1 ramp)	\$28,500
Return on platform cost	558%
Payback period on Year 1 implementation	Under 3 months
Card interchange revenue (CivicChain earns on phone taps)	Approximately \$8,200/year at 1.5% on \$550,000 card spend
Float yield on Rail MTA balance (operational)	Approximately \$6,800/year at 4% annualized on avg \$170,000 balance
3-year cumulative net saving (accounting for ramp)	Approximately \$520,000
5-year cumulative net saving	Approximately \$937,000
Saving as percentage of contracted services budget (Year 1)	4.9% per year

7. The Transparency Argument: What South Portland Already Does and What It Cannot

7.1 South Portland's Existing Governance Strengths

South Portland is not a governance problem looking for a solution. The city has a professional City Manager, a Finance Director with a team, an annual audit with no major findings, a AAA bond rating that requires rigorous financial reporting, and established internal controls. The transparency argument for CivicChain is not that South Portland is opaque. It is that the transparency South Portland provides today, accurate annual audit reports and budget documents, is retrospective, aggregate, and mediated by staff. CivicChain provides something different: prospective, granular, and independently verifiable.

7.2 The Three Gaps CivicChain Closes

Even with strong internal governance, three transparency gaps remain in South Portland's current operations:

Gap	Current State	CivicChain State
Real-time spend visibility	Citizens learn what was spent when the audit is published, 6 to 9 months after the fiscal year ends.	Citizens see every contract payment and every phone tap transaction in near real time on the public portal. Independently verifiable on XRPL.
Direct expense verification	Vendor fuel and materials purchases are visible only at invoice level, after the fact, at aggregate monthly or contract-period totals.	Every fuel purchase by every contracted crew is an MCC-locked, real-time RLUSD transaction. South Portland sees the merchant, the amount, the vehicle, and the timestamp within seconds.
Independent verifiability	A citizen who wants to verify a contract payment must submit a FOIA request and trust that the city's response is accurate.	Any citizen, journalist, or auditor can verify any contract payment on the XRPL block explorer without asking South Portland for anything. The record is on a blockchain no administrator can alter.

7.3 The AAA Rating and Public Trust

South Portland's AAA bond rating reflects investor confidence in the city's financial management. CivicChain does not affect the bond rating directly. But the transparency infrastructure CivicChain provides, real-time public accountability on every contract dollar, reinforces the governance narrative that sustains the AAA rating over time. A city that allows any resident to independently verify every contract payment on a public blockchain is demonstrating a level of financial accountability that few municipalities of any size can claim. That is a material competitive advantage in a state where municipal governance is under increasing public scrutiny.

7.4 The Citizen Voting Dimension

South Portland's population of 26,100 makes geolocation-verified citizen voting not just feasible but politically significant. A plowing contract vote in a city with 26,100 residents, roughly 18,000 of whom are registered voters, is a meaningful democratic event. If 2,000 residents vote to select the contractor who plows their road, that selection has a legitimacy that no board decision can match. It also produces a result that is nearly impossible to contest, because the voting record, including confidence scores per ballot and the boundary polygon version in effect, is anchored on the XRPL.

South Portland already has ward structure and organized neighborhoods. The voting app would map naturally to those existing civic geographies, allowing neighborhood-level participation visibility in addition to city-wide totals.

8. Side-by-Side: Millbrook vs. South Portland

These two case studies together demonstrate that CivicChain's value proposition scales with municipal size and is not limited to the smallest, most resource-constrained towns. The structural inefficiencies are present at both scales. The dollar magnitude grows with contract volume. The platform fee grows proportionally but more slowly than the savings, producing a higher return on investment at larger scale.

Metric	Millbrook, NH (Pop. 4,200)	South Portland, ME (Pop. 26,100)
Annual contracted services budget	\$385,000	\$3,800,000
Annual payment processing fees	\$5,468	\$54,132
Annual staff labor (procurement and payment)	\$25,320	\$67,800
Annual bid premium and cash flow cost	\$14,370	\$106,700
Annual audit and FOIA overhead	\$3,050	\$12,200
Annual untracked direct expense inflation	\$4,750	\$19,200
Total annual inefficiency cost	\$52,958	\$260,032
CivicChain platform fee	\$8,400	\$28,500
Net annual saving	\$32,293	\$187,400
Return on platform cost	385%	558%
Card interchange revenue (CivicChain)	\$1,425/yr	\$8,200/yr
Payback period	2.8 months	Under 3 months

9. Conclusion

South Portland is a well-run city with strong financial controls and a AAA bond rating. It is also paying \$260,000 per year in structural procurement and payment overhead that has nothing to do with how well its Finance Director manages the process. The 2.5% PayPort portal fee, acknowledged explicitly in the city's own public FAQ, accounts for \$53,280 of that overhead on its own. The bid premium that South Portland's contractors price in because they know they will wait 3 to 5 days to be paid accounts for another \$95,000.

CivicChain eliminates both of those costs. Not by improving how South Portland's staff manages payments, but by replacing the infrastructure those payments run on. Rail's ACH withdrawal API costs a flat fee per transaction instead of a percentage. Faster settlement removes the receivable carrying cost that vendors price into bids. The \$187,400 net annual saving is not a rounding error in a \$47 million city budget. It is 1.5% of the contracted services budget recovered every year with no reduction in service quality, no staff reduction, and no operational disruption.

The case for South Portland also makes the platform case. CivicChain is not only for resource-constrained small towns that cannot afford professional procurement infrastructure. It is for any municipality, of any size, whose contracted services payments still run through a percentage-fee payment portal and whose vendor direct expenses are still invisible until the invoice arrives. That is nearly every municipality in Maine. And nearly every municipality in the country.



CivicChain, Proprietary and Confidential

All figures are modeled estimates based on publicly available South Portland budget documents, Maine PayPort fee schedules, city department information, and municipal procurement benchmarks. Actual results will vary. Fee structure data derived from South Portland FY25 municipal budget documents, city FAQ publications, and the Maine PayPort Schedule A agreement.