BOSS Civic Infrastructure Blueprint to End Homelessness

A Framework for California Cities

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Prepared by BOSS Built On Site Systems

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Foreword

California stands at a turning point. Homelessness has become the defining humanitarian and civic challenge of our generation. With more than 180,000 people unhoused in our state, cities are simply overwhelmed. It is not just a question of more housing, but of sufficient infrastructure - the basic systems a city must have to care for its residents and to protect public health, safety, and the dignity of our citizens.

At Built on Site Systems (BOSS), we believe that just as every city maintains hospitals, fire stations, and schools, every city must also maintain interim housing capacity to support the unhoused. This capacity is what gives mayors, city managers, and community partners the ability to respond quickly, house people safely, and rebuild lives while long-term housing is being developed.

Over the last several years, BOSS has worked alongside cities and nonprofits to design and deliver over one thousand tiny homes of interim and permanent supportive housing across California. These projects have shown that with the right systems - standardized design, modular manufacturing, streamlined permitting, and clear partnerships - we can move from crisis management to civic planning.

The *BOSS Civic Infrastructure Blueprint to End Homelessness* was created to share that framework. It is both a guide and a call to action: a way for cities to plan, fund, and deliver the infrastructure that ends unsheltered homelessness and promotes a pathway towards permanent housing.

This Blueprint includes far more than constr uction. It is a collaboration among governments, developers, service providers, and communities - to make homelessness rare, brief, and non-recurring.

I invite every California city to take this Civic Infrastructure Blueprint, adapt it to your local needs, and join us in building the systems that restore dignity and strengthen our shared future.

Viken Ohanesian
Founder & CEO

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1. Understanding the Challenge & Scale of Need

The Civic Infrastructure Gap

Homelessness in California is not only a social issue; it is an infrastructure failure. The state is home to more than 180,000 people experiencing homelessness, with roughly two-thirds living unsheltered. Despite historic investments, most cities still lack the basic capacity to provide temporary, dignified housing while permanent units are built. The BOSS Civic Infrastructure Blueprint helps cities close that gap by planning and delivering interim housing as essential civic infrastructure.

Estimating Local Capacity Needs

Every community's path to Functional Zero - where homelessness becomes rare, brief, and non-recurring - begins with understanding its scale of need. Cities can start by reviewing local unsheltered counts, service-provider data, and the turnover potential of interim housing.

While models vary, many programs show that residents typically stay in interim housing for four to six months before moving to more stable housing. At this pace, a 100-room community can generally serve 200 or more people per year, assuming consistent occupancy and efficient transitions. These figures are indicative planning guidelines, not fixed standards. Actual outcomes depend on local factors such as available services, housing affordability, and the strength of the city's re-housing network.

Estimated Throughput by Average Length of Stay (Illustrative)

Average Length of Stay	Estimated Residents Served per 100 Rooms per Year*
4 months (rapid turnover)	~250 people
6 months (typical average)	~200 people
9 months (slower transitions)	~130 people

*Estimates are illustrative and may vary by program design, services, and local conditions. Use these figures as planning guidelines, not commitments.

Planning for Growth

Cities can use these indicative figures to model incremental capacity targets:

- Start with one or two communities to address immediate encampment zones.
- Expand to create citywide capacity that can accommodate a defined share of the unsheltered population each year.
- Adjust targets annually as data improve and partnerships mature.

The goal is to build infrastructure readiness - a permanent civic capability to provide interim housing at the scale and speed required to protect residents and manage the flow of need.

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2. Aligning Leadership and Stakeholders

Building a Unified Civic Mandate

Ending unsheltered homelessness requires more than funding or land - it requires alignment. Cities succeed when leaders move from operating in silos to working as one civic system: elected officials, city management, housing, planning, public works, service providers, and community partners connected by a shared mandate.

The BOSS Civic Infrastructure Blueprint accelerates this alignment by giving decision-makers a common language so interim housing is treated as infrastructure - planned, funded, and maintained like any essential city service.

The Leadership Ecosystem

Core Roles and Responsibilities

Role	Responsibility
Mayor / City Council	Establish the civic mandate; frame interim housing as infrastructure.
City Manager / CAO	Coordinate inter-department execution; align funding and compliance.
Housing & Community Development	Integrate interim housing into the city's overall housing pipeline.
Public Works / Engineering	Oversee land readiness, utilities, grading, and inspection coordination.
Planning Department	Lead zoning adjustments, design review, and CEQA streamlining.
Service Provider Partners	Deliver case management, behavioral health, workforce readiness, and wrap-around care.

Building Political Will and Public Support

1) Frame interim housing as infrastructure, not shelter. Treat it as a core civic service.
2) Lead with fiscal responsibility. Interim housing reduces emergency and health costs while restoring dignity.
3) Show visible results quickly. Early, clean, well-run sites build public trust.
4) Engage early and often. Use visuals, standards, and clear operations plans to address concerns.
5) Use trusted messengers. Service providers, faith leaders, and local business owners build credibility.

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The Role of BOSS in Alignment

BOSS serves as a technical and coordination partner, helping cities translate intent into coordinated action. Through planning sessions and design collaboration, BOSS shares proven models and case studies, coordinates design and engineering discussions among departments, connects cities with resources and partners, and provides technical materials and visuals that explain design standards, safety measures, and community impact. In every engagement, BOSS complements - rather than replaces - the city's leadership, communications, and service - delivery functions.

Community Engagement and Trust

Community engagement is a cornerstone of long-term success. BOSS supports cities in developing Good Neighbor practices - including 24-hour on-site management, security coordination, and routine maintenance protocols - so neighborhoods see quality, safety, and cleanliness from day one.

Key Takeaways

- Alignment is infrastructure - political and departmental unity is as critical as steel and concrete.
- Leadership starts the clock - once interim housing is defined as infrastructure, projects can move within months.
- Transparency builds trust - clear communication, data, and early wins lead to durable public support.
- BOSS stands beside city leadership as an implementation partner - turning vision into execution.

3. Designing the BOSS Built On Site System

A System for Every City Need

BOSS provides a complete building system for California cities. Whether a city needs interim housing under emergency codes (CBC Appendix P) for encampment response or under permanent housing codes (CBC Permanent Housing Codes) for long term recovery, the BOSS framework delivers certified solutions built on the same engineering logic: precision manufacturing, energy-efficient assemblies, and code-compliant performance.

Three Certification and Delivery Paths

1) DGS-Certified Homes - State-Awarded | CBC Appendix P (Emergency Housing) | ≈10-Year Lifespan

These homes have been competitively bid and awarded through the California Department of General Services (DGS). Cities can contract directly under the state-awarded contract - no additional local bidding required - enabling rapid deployment.

Structure and Materials: Structural steel insulated panels with coated-steel interior and exterior finishes; factory-injected insulated core creating a solid, weather-tight shell. Approved under California Building Code Appendix P for Emergency Housing. Fully relocatable; panels and modules can be disassembled and reused at new sites. Expected service life ≈10 years.

2) HCD-Certified Factory-Built Homes - Permanent | Moveable | CBC Permanent Housing Codes

Approved by the California Department of Housing and Community Development (HCD) and meeting permanent-housing provisions of the CBC. Cold-formed steel stud framing with PIR insulation, drywall interiors, and cement-board exteriors. Relocatable modules can be re-set on new foundations if land use changes. Procured locally.

3) Built On Site Systems - Permanent | Fixed | CBC Permanent Housing Codes via Local AHJ

Constructed on site using BOSS-fabricated components under approval of the local Authority Having Jurisdiction (AHJ). Steel-stud assemblies with PIR insulation, drywall interiors, and cement-board exteriors. Fixed to concrete slab foundations; procured locally.

Comparison Summary

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System Type	Certification/Approval	Code Basis	Procurement Path	Expected Lifespan	Mobility
DGS-Certified Homes	Dept. of General Services	CBC Appendix P (Emergency Housing)	State-awarded (no local RFP)	≈ 10 years	Relocatable
HCD-Certified Homes	Dept. of Housing & Community Development	CBC Permanent Housing Codes	Local contracting	Permanent (30+ years)	Moveable
Built On Site Systems	Local AHJ (Building Dept.)	CBC Permanent Housing Codes	Local contracting	Permanent (30+ years)	Fixed

Shared Performance and Design Standards

All BOSS systems prioritize energy efficiency, safety, and quality control. Layouts are flexible - private rooms, shared kitchens, case-management offices, and common courtyards - and engineered to California energy standards. BOSS collaborates with each city's architects, contractors, and public-works teams; site construction and utilities are delivered by local partners.

Key Takeaways

- BOSS offers distinct systems for distinct needs: DGS for rapid interim housing under Appendix P; HCD and Built On Site for permanent housing under CBC codes.
- State-awarded advantage: DGS Homes allow cities to contract immediately without local RFPs.
- Engineering consistency: All systems share steel structure, fire safety, and energy efficiency.
- Collaborative execution: BOSS provides the housing system and technical expertise; local partners build the site.

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4. Unlocking Land, Codes & Permits

Land as the First Unlock

Underutilized parcels - public surplus property, vacant commercial sites, school or transit parcels, and idle parking lots - can be activated as civic assets. Because DGS-certified systems are relocatable, cities can use sites for limited periods - sometimes as short as three years - without jeopardizing future redevelopment.

Identifying and Preparing Sites

1) Leverage public inventories: State surplus databases, county land lists, and internal public-works records.
2) Use flexible site control: 3- to 5-year leases or joint-use agreements for interim use.
3) Address site readiness early: With civil engineers and architects, evaluate utilities (water, sewer, power, storm), soil conditions, drainage and grading, access and circulation, fire setbacks, and easements.
4) Design for community integration: Align with transit and services; use landscaping, lighting, and architectural treatments for neighborhood acceptance.

BOSS supplies site-planning templates, base layouts, and coordination drawings that integrate our housing systems into civil designs prepared by city consultants.

Streamlining Codes & Permitting

A) Emergency & Interim Housing (DGS Systems): CBC Appendix P for Emergency Housing; consider Shelter Crisis declarations (Gov. Code § 8698) to relax zoning/CEQA for temporary housing. Timelines can compress to 60–90 days.

B) Permanent Housing Codes (HCD & Built On Site): Follow permanent-housing provisions of the CBC. Standardized engineering packages often shorten plan-check cycles relative to conventional builds.

C) Zoning & By-Right Tools:
• AB 101 – Low Barrier Navigation Centers: By-right on mixed-use or non-residential land when operations criteria are met; reduces discretionary review and CEQA delays.
• SB 35 – Streamlined Infill Housing: Ministerial approval for qualifying infill projects meeting zoning and labor standards; useful for permanent supportive/modular housing when RHNA goals are unmet.
• Local Emergency Ordinances and Overlays: Temporary land-use overlays to activate emergency housing on public or commercial parcels for defined periods.
• Shelter Crisis Declarations: Temporarily suspend specific state housing/health regs for emergency sheltering; expedites site approvals and occupancy.

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Coordinating with Authorities Having Jurisdiction (AHJs)

Convene Fire, Building, Planning, and Public Works at the start of your project to confirm layouts, access, and life-safety expectations. BOSS provides structural, fire, and energy documentation; for Appendix P, standard detail sheets and precedent approvals help AHJs approve with confidence.

Balancing Speed and Compliance

Pair rapid-deployment DGS communities with permanent HCD or Built On Site housing to create a complete continuum - immediate relief plus enduring capacity.

Key Takeaways

- Land activation is achievable; relocatable systems enable short -term use (as little as three years).
- Utility, site, and civil readiness assessments are essential early focus areas.
- California provides multiple lawful pathways - Appendix P, AB 101, SB 35, Shelter Crisis, local overlays - to accelerate projects.
- BOSS supports approvals with standardized designs, engineering documentation, and proven examples.

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5. Mobilizing Funding and Partners

Financing Infrastructure, Not Programs

Treat interim and supportive housing as civic infrastructure. The Blueprint helps cities braid capital budgets, healthcare reimbursements, philanthropic investment, and private participation into a single delivery plan.

Mapping the Funding Ecosystem

A) State Programs

- Homekey (HCD): Capital grants for acquisition, rehab, and modular construction - supports DGS/HCD/Built On Site deployments.
- HHAP: Formula-based block grants for operations/services; pairs with Homekey for capital + operations.
- CalAIM: Community Supports (Medi-Cal) fund transitional housing in partnership with Managed Care Plans.
- BHCIP: Capital for behavioral-health treatment and stabilization capacity (DHCS).

B) Federal Programs

- HUD CoC & ESG: Capital and operations for transitional/supportive housing.
- VA (GPD / HUD-VASH): Targeted support for veterans; sites qualify for VA service contracts.

C) Healthcare & Philanthropy

- Hospitals and Managed Care Plans invest to reduce ER utilization and readmissions.
- Corporate/family foundations bridge funding gaps and matches.
- CDFIs provide bridge loans/low-interest financing for site prep and local match.

D) Local & Private Partnerships

- Developers and contractors contribute land or site work; public-works departments manage grading/utilities for Built On Site projects.
- Nonprofit service providers operate communities under city contracts.

Building a Blended Funding Strategy

Project Cost Layer	Typical Funding Source
Land or Site Preparation	Local funds, public-works budgets, CDFI bridge loans
Modular Units (DGS/HCD/Built On Site)	Homekey capital grants, philanthropy
Utilities & Infrastructure	Local match or developer contribution
Services & Operations	HHAP, CalAIM, VA, healthcare partners
Behavioral Health Facilities	BHCIP, CalAIM Community Supports

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Coordinating Funding with Delivery Phases

1) Concept & Feasibility (0–60 days): Identify land, define scope, secure preliminary commitments.
2) Design & Permitting (60–120 days): Apply for Homekey/HHAP; submit CalAIM/BHCIP applications.
3) Manufacturing (120–180 days): Execute funding agreements and release orders for production.
4) Installation & Occupancy (180–240 days): Draw final capital funds; shift to operations funding.

Transparency and Accountability

Report clearly how each dollar produces outcomes - reduced encampments, improved public health, and faster transitions to housing. BOSS shares data and case examples from completed projects to inform future applications and public presentations.

Key Takeaways

- Think infrastructure: blend capital and operating sources to create durable capacity.
- Use California's funding architecture: Homekey, HHAP, CalAIM, BHCIP form the core stack.
- Pair state grants with local/private partners to fill match and gaps.
- Align funding cycles to the six -month BOSS deployment schedule.

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6. Delivering Housing and Operations

From Blueprint to Reality

The Blueprint translates planning into execution through industrialized construction, local collaboration, and coordinated project management. Projects follow defined phases: land readiness, system fabrication, on-site installation, and handover.

1) Early Coordination and Contract Activation

BOSS convenes kickoff meetings with the city's project manager, civil engineers, architects, and - where applicable - developers or contractors to confirm scope and schedules.

- DGS-Certified Projects: Contract directly under the state-awarded DGS agreement (no local bidding).
- HCD or Built On Site Systems: Proceed through local procurement with standardized BOSS design packages to streamline approvals.

2) Site Preparation and Foundations

Site preparation is managed by the city's civil engineer, general contractor, or developer; BOSS provides foundation interface drawings, utility connection points, and installation guidelines.

- DGS: Install on asphalt, sand, or compacted gravel.
- HCD: Units with metal floor framing on asphalt pads or concrete perimeter foundations.
- Built On Site Systems: Concrete slab foundations for permanent, fixed attachment.

3) Manufacturing and Quality Assurance

BOSS manufactures housing systems in controlled environments while site work proceeds - cutting total delivery time by more than half. Systems use structural steel or insulated panels, PIR insulation or insulated cores, cement-board or coated-steel exteriors, and drywall or coated-steel interiors. BOSS's ISO-certified process ensures consistent quality, safety, and code compliance; units are inspected to verify conformance with DGS, HCD, or AHJ standards.

4) Logistics, Delivery, and Installation

- DGS: Delivered as wall and roof panel kits; rapidly assembled on site by trained crews.
- HCD: Shipped fully pre-built on flatbeds; unloaded by forklift or crane and set on prepared foundations.
- Built On Site Systems: Constructed entirely on site using BOSS components under local AHJ oversight.

All DGS and HCD units are relocatable, allowing cities to redeploy capacity as needs evolve.

5) Site Development and Landscaping

Local architects and design teams complete circulation, lighting, accessibility, and open-space planning. Thoughtful site design improves livability and public acceptance.

Collaboration in Delivery

BOSS leads housing-system design, manufacturing, and installation while cities, developers, and contractors manage site work and utilities. This shared model ensures efficiency, transparency, and local economic participation.

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Warranty and Ongoing Support

All BOSS systems include a comprehensive warranty and ongoing technical support for cities as needed, including assistance with relocations or component replacement.

Integrating Local Workforce and Partners

Local contractors, developers, and public-works teams handle civil works, utilities, and landscaping. Assembly assistance and finishing trades can be performed by BOSS teams or units can be delivered assembled when appropriate.

Commissioning, Handover, and Occupancy

BOSS conducts a walkthrough with the city's project manager, architect, and general contractor to ensure all systems perform as intended. The general contractor leads formal commissioning and obtains approvals from the DGS, HCD, or local AHJ. Estimated timelines: ~6 months for DGS; ~8 months for HCD or Built On Site Systems. Durations vary by site and permitting.

Key Takeaways

• Coordinated execution: BOSS manufactures and installs; cities, developers, and contractors deliver site work.
• Flexible foundations: DGS on asphalt/sand/gravel; HCD on asphalt or concrete perimeters; Built On Site on slabs.
• Quality assurance: All systems meet required standards and are inspected for compliance.
• Rapid installation and relocatability: DGS assembled quickly on site; HCD pre -built modules; both relocatable.

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7. Measuring Impact and Sustaining Functional Zero

Building Accountability into Civic Infrastructure

The Blueprint provides a framework of best practices to build, track, and strengthen interim and supportive housing systems. Once communities are operating, cities and their service providers lead performance monitoring, data sharing, and operational refinements.

Defining Functional Zero

Functional Zero means homelessness is rare, brief, and non-recurring - when capacity consistently meets demand. Track three indicators: (1) Capacity vs. Need; (2) Flow Through the System (average stay); (3) Return Rate within 12 months. Maintaining balance for six consecutive months indicates Functional Zero.

How Cities Monitor Success

Cities and service providers partner closely to:

- Track occupancy, turnover, and exits to permanent housing.
- Monitor service outcomes such as employment, health stabilization, and family reunification.
- Conduct monthly performance reviews across departments and providers.
- Use data to identify gaps and respond quickly with targeted solutions.

Transparency and Public Confidence

Publish consistent, factual updates on occupancy, costs, and outcomes. Simple dashboards, council reports, and community briefings build credibility and unlock future funding.

Maintaining System Readiness

Treat interim housing like other public infrastructure: scheduled assessments, renewal plans, and capital budgeting. Best practices: annual capacity reviews; reserve sites for rapid activation (DGS); lifecycle plans for maintenance and upgrades; budget forecasting for reinvestment. Because DGS and HCD systems are relocatable, cities can re-deploy capacity as needs change.

The Role of BOSS as a Long-Term Partner

BOSS remains a trusted systems partner, sharing design expertise, lessons learned, and implementation support as cities expand or refine programs. We help plan scaling, relocation, and next-phase improvements when requested.

Key Takeaways

- Functional Zero is measurable: capacity, flow, and return rate.
- Cities and service providers monitor performance together.
- Transparency sustains support; readiness ensures resilience.
- BOSS provides the framework and partnership to sustain results and scale success.

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This document reflects the framework and systems developed by BOSS Built On Site Systems, informed by our partnerships and collaborations across California and aligned with established public best practices for housing and homelessness initiatives.