Moving Forward 3.0
Innovation Workshop

Executive Summary

Prepared for IHCDA

January 2018

Executive Summary

The Project and Collaborative Workshop:

Building on the success of Moving Forward 1.0 and 2.0, the Indiana Housing and Community Development Authority (IHCDA) renewed the Moving Forward initiative for a third year. Referred to as Moving Forward 3.0, this year's exciting development projects will integrate power generation, housing development, energy storage, and clean transportation in a total cost of ownership (TCO) model for:

• improving quality of life for tenants,

• increasing energy efficiency, and

• generational poverty alleviation

IHCDA renewed its partnership with Energy Systems Network (ESN) to execute an Innovation Workshop on November 14-15, 2017. Global thought leaders, subject matter experts, and the selected developer teams came together to collaborate in defining goals, processes, solution sets, and established measurements of success for creating world-class living ecosystems.

Innovation Workshop and Results

Participants in the workshop spent two highly active days working in a collaborative Innovation Workshop to establish stretch goals, identify breakthrough opportunities, address challenges, and to develop process and product solutions. On Day One, the participants were placed into six strategic breakout subgroups:

1. Energy Efficiency & Supply
2. Built Environment
3. Transportation
4. Policy & Finance
5. Quality of Life & Poverty Alleviation
6. Systems Integration

On Day Two, participants were split into two "Visioneering" teams to create high-level plans that would address and achieve the stretch goals for each site. This Executive Summary provides an overview of the key workshop results so the IHCDA and developer teams can review the summary results of the Moving Forward 3.0 Innovation Workshop. A full report of all Innovation Workshop results will also be available.

Mission Statement

Moving Forward will enhance the "Quality of Life" for Hoosiers through innovative and integrated housing and transportation solutions to increase affordability, improve environmental quality, and create greater community within the site, region, state, and beyond.

Summary of Day One Activities

Overview of Main Activities from Day One:

The first day of the Moving Forward 3.0 Innovation Workshop was centered around four main activities:

1. Inspiration and Breaking Boundaries
2. Establishing Minimum and Stretch Goals
3. Selecting Top Three Goals for Each Group
4. Identifying Opportunities to Achieve Stretch Goals and Possible Challenges

Inspiration and Breaking Boundaries

Developer teams, SMEs, and East Chicago residents Tara Adams and Akeeshea Daniels were invited to the Old Carrie Gosch Elementary School, a recently abandoned school located next to the former West Calumet Housing Complex – EPA Superfund Site, Zone 1. This location served as a reminder of the urgency of innovation.

The day kicked off with breaking boundaries presentations led by workshop participants. These presentations highlighted pioneering projects including the BlueIndy electric car sharing program, ECSIA's sustainable agriculture, and various green building standards. The workshop participants then brainstormed "Headlines of 2025" to consider the possibilities for successful outcomes of Moving Forward 3.0.

Goal Setting

After the warmup activities of the morning, the next two breakout group sessions defined minimum and stretch goals for each development.

Stretch Goal Process

This final breakout session focused on defining the processes to get from minimum goals to stretch goals.

Voting on Top Three

At the end of Day One, all workshop participants voted on which three goals and processes which should be prioritized for further definition and refinement.

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Setting Minimum and Stretch Goals

Workshop Intention

The intent of the Moving Forward 3.0 workshop was to push the current boundaries in integrated housing with energy efficiency and transportation to address quality of life, education, employment and move toward sustainable poverty alleviation. To achieve this, workshop participants established two levels of goals for each project area.

Minimum Goals

These goals set the baseline requirements for the final projects. While they are "minimum" goals, they are intended to far exceed current standards for energy efficiency, environmental quality, materials, water, transportation, systems, poverty alleviation, etc.

Stretch Goals

Participants also set stretch or "out of the box" goals which became the actual targets that all participant proposals aimed to define and accomplish. The strategies and high-level plans developed on Day Two of the workshop focused on achieving the stretch goals for the specific developments.

Looking Beyond Certification Programs

The goals set at the workshop are not meant to conform to existing standards and certification programs; however, certification programs can provide useful insights and potential baseline targets in different areas.

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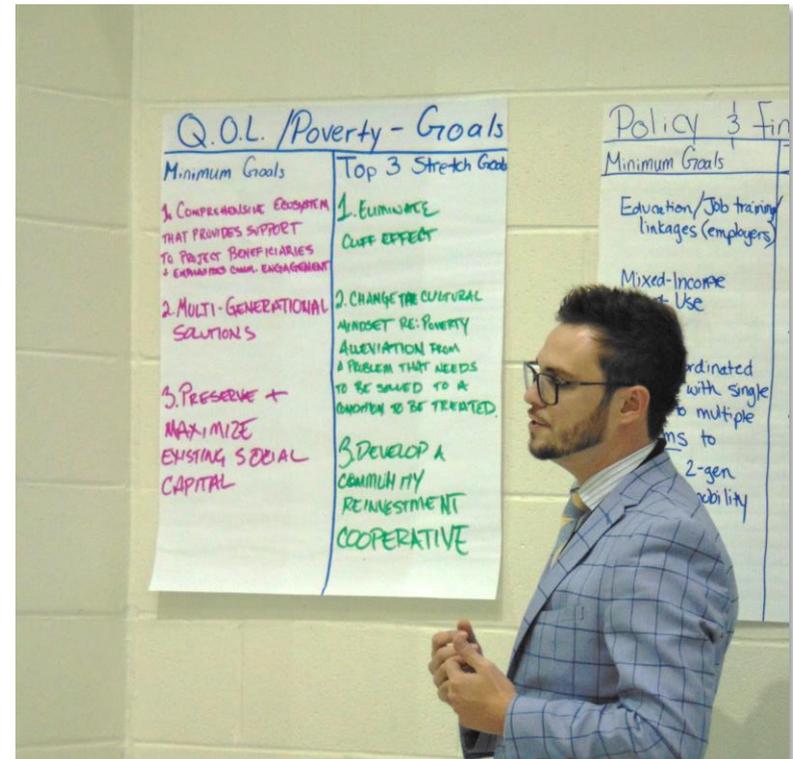
Summary of Minimum Goals

Energy Efficiency & Supply

EUI less than 50% of code to enable net-zero energy with reasonable solar area

Monetize net-positive energy by using it to power transportation and greenhouses

Educate tenants on operating systems & energy use behavior

Policy & Finance

Build capacity for on-site career coaching & education

Mixed use development with commercial, residential and office spaces for mixed-income residents

Pilot coordinated services with single intake to multiple systems to promote 2-generation upward mobility

Built Environment

Prioritize resident health, safety, and welfare through high indoor air quality and by encouraging active mobility and lifestyles

Engage stakeholders throughout the building life-cycle by utilizing an onsite, multi-purpose community center.

Net-zero ready/resilient and sustainable

Systems Integration

Immediate & regional implementation of low-cost remediation

Integrated community & sustainable housing with walking paths, EV transit, IOT connectivity, & net-zero

Food grown on-site for health, education & business

Transportation

Incorporate multi-modal transportation options for multiple demographics

Everyone has 24-hour access to services

Foster partnerships between public & private entities

Quality of Life

Develop a comprehensive ecosystem that supports residents & emphasizes community engagement

Provide multi-generational solutions

Preserve & maximize existing social capital

Summary of Stretch Goals

Energy Efficiency & Supply

EUI less than 75% of code to free up solar area for energy export or make energy systems smaller & cheaper

New utility policy to encourage efficiency investments by meter/billing customers for energy services rather than energy use

Surplus energy production (possibly utility-scale PV) earns revenue from energy sales including EV charging & V2G

Built Environment

Focus on health, a requirement of WELL Building Standard

Engage residents through design interaction, metric and feedback loop

Lower cost of ownership by superior energy efficiency (lower gas/electric bills), water efficiency (lower water bills), and durability (reduced maintenance).

Transportation

Use active transportation as a catalyst for a healthier community

Zero barriers to multi-modal options

Net-positive transportation achieved by offsetting average transportation budget with energy generation through PV

Policy & Finance

Single payment on housing, transportation and utilities

Enhanced economic development zones with $20M investment into Moving Forward 3.0 ecosystems

Pilot transportation savings account

Systems Integration

Global leadership & "living lab" of highest quality soil, water, air, IOT, food & transportation – ensures global recognition

Create a loving, diverse community with highest in region academics leading to leadership with historical influence

"Zero Emission" built environment fully integrated via IOT to education, jobs, medical care, entertainment and shopping with a reduction of parking & impact on streets

Quality of Life

Eliminate "cliff effect" by implementing steady, gradual change

Change the mindset regarding poverty from a problem that needs to be solved to a condition to be eliminated

Develop a community reinvestment cooperative by engaging alumni

Summary of Day Two Activities

Inspiration & Breaking Boundaries – Day Two

The morning of Day Two included a presentation by Gary Hobbs of BWI, one of the inaugural Moving Forward developer teams, regarding the ongoing successes of "Posterity Heights" – a Ft. Wayne Moving Forward development to be completed in August 2018. Hobbs emphasized the importance of considering the residents' needs first when setting goals and outlined the features of their planned campus, many of which meet the stretch goals stated the previous day.

Stretch Goal Process Definition

The breakout groups were challenged to take the processes they established at the end of Day One and define, in full detail, the means of achieving the stretch goals. This included, but was not limited, to:

- "Who / How" – what partners, technology, policy, etc. are needed to achieve the stretch goal?
- "TCO" – Defining total cost of ownership (TCO) includes all capital expenses as well as ongoing operating expenses, over the life of the system
- "ROI" – What is the return-on-investment (ROI) on the stretch goal? What funding streams can be identified to make this stretch goal a reality?

"Visioneering" Teams

The majority of Day Two was spent developing high-level plans for each developer team:

- **Miller Valentine Group (MV Group)** – Cincinnati, Ohio

- **UP Development** – Chicago, Ill.

Participants were separated into two teams and the remaining SMEs were equally distributed between them. Each team was given a hypothetical property in their geographical areas of interest and was challenged to create a high-level development plan that would achieve the established stretch goals and could be replicated in the developer's actual plans.

After a half day of "Visioneering," each developer presented their high-level plans to a guest panel of state and local leadership. The following slides contain a summary overview of the proposals set forth by each team.

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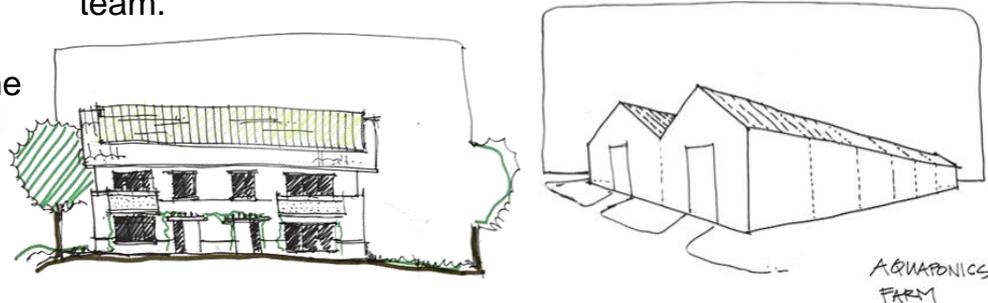
MV Group – Broadway Lofts, Gary, Ind.

Location: Gary, Ind. at Broadway corridor

Renewable Energy System: Solar panels over carports and net-zero buildings

Development Characteristics:

- 42 units with 1-, 2- and 3-bedrooms, including apartments and townhomes
  - 30 units at 60% AMI
  - 10 units at PVB
- Target Lake County families, students and employees of all socio-economic backgrounds
- Broad-based case management with IHCDA on-site
- Attract business incubator to produce production facilities with a storefront, job training and accessibility on first floor space
- Intergenerational mentoring in which youth teach seniors, and vice versa
- Pilot micro-transit or expand bike share

Goals/Objectives:

- Create a loving, diverse neighborhood with net-zero buildings
- Restore the Broadway Corridor to its former 1960s glory
- Create a family ecosystem that brings about a high quality of life by integrating safety, education, training and empowerment

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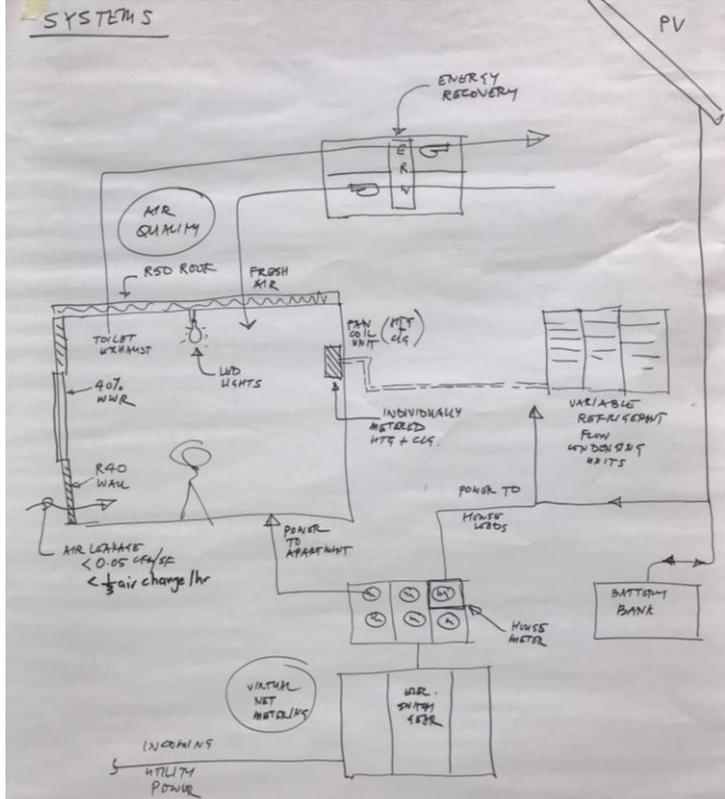
UP Development – Calumet Square, East Chicago, Ind.

Location: East Chicago, Ind. focusing on Zone 2 of the Superfund Site in the Calumet neighborhood

Renewable Energy System: 600-square foot PV per unit; Excess energy generated at offsite solar field

Development Characteristics:

- 18 single family lots (4-bedroom homes); 22 1- and 2 bedroom apartment units
- 12,000 square feet of commercial/service space
- Aquaponics facility on property
- Leverage Calumet River as a connector by creating a greenway and bike transit system
- All-electric systems with ductless mini-splits for heating and cooling

Goals/Objectives:

- Create a community hub consisting of multiple single-family lots and apartments on top of a community center with daycare center and access to healthcare
- Provide housing style diversity in existing neighborhoods and connect community to existing resources
- Focus on supporting residents to achieve higher wages

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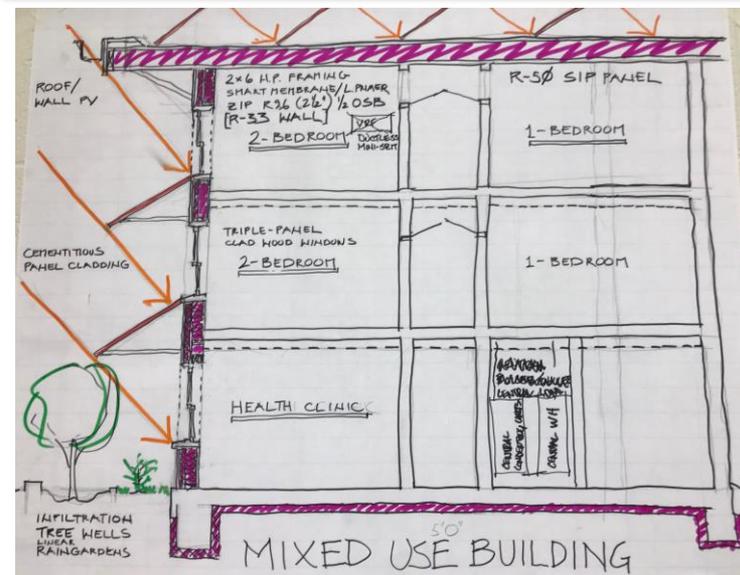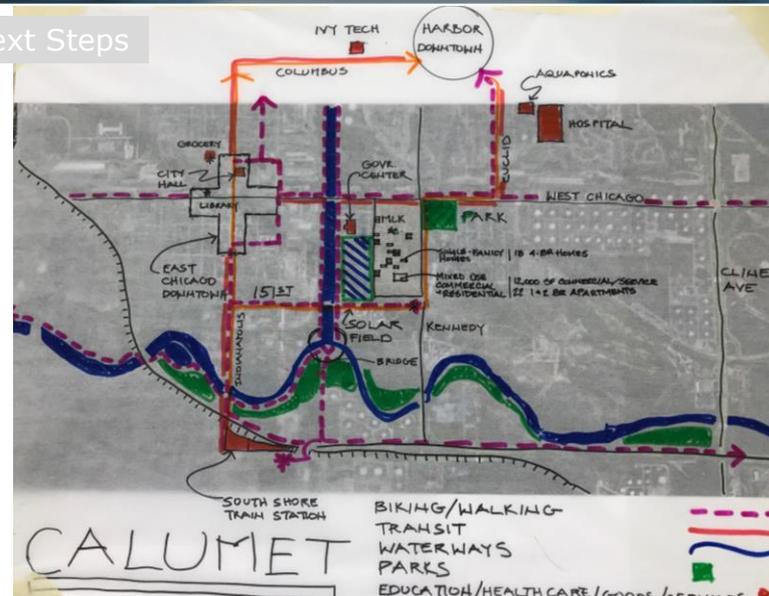
Moving Forward 3.0 – Next Steps

Recap and Next Steps

The Moving Forward 3.0 Innovation Workshop created a collaborative environment that challenged every participant to question previously perceived limitations on "how to best integrate high-performance housing and transportation with affordability and purposefully address poverty alleviation."

The stretch goals pushed the developer teams to think beyond the boundaries of a selected site and identify aspects of sites that would make the goals more achievable. Each developer team created a plan that met the stretch goals for affordability, integrated housing, transportation, environmental quality, energy efficiency, community development, and – most importantly – improve the quality of life through strategic and sustainable poverty alleviation.

In addition, the developer teams will receive an Outcomes Checklist for their specific Moving Forward projects. As project sites are finalized and detailed designs begin in the coming months, developer teams and community partners are highly encouraged to integrate the ideas and solutions cultivated in the Moving Forward 3.0 workshop. The Outcomes Checklist has been developed to assist the projects as they advance into reality.

Moving Forward Mission Statement

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Moving Forward 3.0 Project Goals "Checklist"

Minimum Goals	MV Group	UPD	Stretch Goals	MV Group	UPD
Energy Efficiency and Supply			**Energy Efficiency and Supply**		
EUI less than 50% of code to enable net-zero energy with reasonable solar area			EUI less than 75% of code to free up solar area for energy export or make energy systems smaller & cheaper		
Monetize net-positive energy by using it to power transportation and greenhouses			New utility policy to encourage efficiency investments by meter/billing customers for energy services rather than energy use		
Educate tenants on operating systems & energy use behavior			Surplus energy production (possibly utility-scale PV) earns revenue from energy sales including EV charging & V2G		
Built Environment			**Built Environment**		
Prioritize resident health, safety, and welfare through high indoor air quality and by encouraging active mobility and lifestyles			Focus on health, a requirement of WELL Building Standard		
Engage stakeholders throughout the building life-cycle by utilizing an onsite, multi-purpose community center			Engage residents through design interaction, metric, and feedback loop		
Net-zero ready/resilient and sustainable			Lower cost of ownership by superior energy efficiency (lower gas/electric bills), water efficiency (lower water bills), and durability (reduced maintenance)		
Transportation			**Transportation**		
Incorporate multi-modal transportation options for multiple demographics			Use active transportation as a catalyst for a healthier community		
Everyone has 24-hour access to services			Zero barriers to multi-modal options		
Foster partnerships between public & private entities			Net-positive transportation achieved by offsetting average transportation budget with energy generation through PV		
Policy & Finance			**Policy & Finance**		
Build capacity for on-site career coaching & education			Single payment on housing, transportation, and utilities		
Mixed use development with commercial, residential, and office spaces for mixed-income residents			Enhanced economic development zones with $20M investment into Moving Forward 3.0 ecosystems		
Pilot coordinated services with single intake to multiple systems to promote 2-generation upward mobility			Pilot transportation savings account		
Quality of Life			**Quality of Life**		
Develop a comprehensive ecosystem that supports residents & emphasizes community engagement			Eliminate cliff effect by implementing steady, gradual change		
Provide multi-generational solutions			Change the mindset regarding poverty from a problem that needs to be solved to a condition to be eliminated		
Preserve & maximize existing social capital			Develop a community reinvestment cooperative by engaging alumni		
Systems Integration			**Systems Integration**		
Immediate & regional implementation of low-cost remediation			Global leadership & "living lab" of highest quality soil, water, air, IOT, food & transportation – ensures global recognition		
Integrated community & sustainable housing w/ walking paths, EV transit, IOT connectivity & net-zero energy			Create a loving, diverse community w/ highest in region academics leading to leadership with historical influence		
Food grown on-site for health, education, & business			"Zero Emission" built environment fully integrated via IOT to education, jobs, medical care, entertainment, and shopping with a reduction of parking & impact on streets		

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