EVERY DAY IS EARTH DAY
Green Legacy Roundtable | Housing
26 April 2019

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Moderated by:
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EVERY DAY IS EARTH DAY 2019 | GREEN DOOR LEGACY ROUNDTABLE: HOUSING

Global Housing Trends – Demand Side

URBANIZATION

- Migration to urban centers
- 41 megacities by 2030

Aerial view of New Delhi, India – anticipated to be the world’s largest city with a population of 39 million residents
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Global Housing Trends – Demand Side

**DEMOGRAPHIC CHANGES**

- Shrinking households
- Aging population
- Multiple generations living together
Global Housing Trends – Demand Side

**DIGITAL ECONOMY**

- Online-centric work, play, life
- Popularity of remote work
- Mobile technology, growth in nontraditional jobs and increasing participation in the gig economy are disrupting where and how and for how long people work, impacting their housing decisions. *Residents will favor having work in close proximity and even provided within their housing communities.*
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Global Housing Trends – Demand Side

SUSTAINABILITY + WELLNESS

- Increasing regulation
- Connection between sustainability and human health
- Increasing demand for sustainable and healthy accommodation
- Shift to “green” and “wellness” lifestyles
Global Housing Trends – Demand Side

AFFORDABILITY

• Issues continue to increase
• Widespread housing shortages
• Lower property ownership
• Increasing income gaps

Bjarke Ingels’ firm has completed Dortheavej Residence, an affordable housing development in Copenhagen made up of prefabricated modules stacked on top of one another.
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Global Housing Trends – Supply Side

**CONSTRUCTION TECHNOLOGY**
- Digital collaboration tools
- Drones and other onsite devices

**CONSTRUCTION METHODS**
- Modular construction
- Prefabrication
- Integrated systems

**BUILDING TECHNOLOGY**
- Smart buildings
- Connected homes
- Product Innovations

**ACCESS AND DISTRIBUTION**
- Online marketplaces
- New financing sources

**SUPPLIER LANDSCAPE**
- Issues continue
- Labor shortages
Global Housing Trends – Affordability is an Issue for All

• It starts with cities - globally cities are more economically powerful than ever

• This economic power increases demand for their land which in-turn increase housing costs and competition
Global Affordability Crisis Drivers

- Expensive cities have simply **not built enough homes** to keep up with growth in employment or population
  - Common reasons for not doing so include:
    - NIMBYism
    - restrictive land-use polices
    - constraints of geography
  - Example: Hong Kong

- Rents have increased even faster than incomes
  - Rents in the U.S. increased by **22 percent** on average between 2006 and 2014, while average incomes decreased by **6 percent**

- Escalating rent burdens fall heaviest on the least advantaged
  - In the US almost 50% of all renters are “cost burdened,” spending more than 30% of their income on housing
  - A vicious cycle

- Housing has been financialized and turned into an investment vehicle
  - Creates an oversupply of luxury housing and a lack of affordable – both in developing and developed world
Global Affordability Crisis Drivers

- **Financialization** - housing is treated as a commodity, a means of accumulating wealth and often as security for financial instruments that are traded and sold on global markets
  - Results in housing is increasingly intertwined with flows of global capital; housing markets are now more responsive to these flows than to local conditions

- Even though money is poured into housing markets it has not contributed to a significant increase in supply
  - Instead it creates an increase in ultra-high-end units that are extremely expensive to produce

- These issues are systemic in nature and beyond the control of local markets.

- However, out of these challenges have risen creative approaches to creating affordable, sustainable and healthy homes which support a higher quality of life.

Chinese “Ghost Cities” are at the extreme end of using housing a financial instrument but demonstrates just how large an issue it is - Many people buy the property for investment with no intention of ever moving in, so supply significantly outweighed demand.
GLOBAL HOUSING TRENDS – NEW HOUSING TYPES
Global Housing Trends – New Housing Types

**SHARED**

- An alternative approach to affordable housing
- Smaller individual units
- Shared multipurpose facilities (kitchens, dining rooms, gym, etc.)
- Potential for subscription-based or short-term rentals
- Minimizes utility cost and fosters community
- The sharing economy is *wearing away at the divide between public and private space*, requiring tomorrow’s housing is integrated into the fabric of the community at large.

"Built with a focus on community and functionality, WeLive enables people to focus on what's most important to them by offering one of the most flexible housing solutions on the market today," said a statement from WeLive. "Simply show up and begin your life without the hassle."
Global Housing Trends – New Housing Types

FLEXIBLE

- Driven by aging population and Millennials
- Adjustable building design and functions
- In the US static staple unit plans, such as the typical one- and two-bedroom, have long been the hallmark of the apartment industry, but in the coming years, apartment communities and units will have to adapt to serve a greater variety of households and housing needs.
- This will require building in adaptability in physical components of unit construction.
Global Housing Trends – New Housing Types

**WELLNESS + HEALTH**

- Built-in wellness amenities – air and water filtration and purification systems
- Sensors to track air, water and lighting quality
- Wellness centers programming for residents in multi-unit dwellings
- Well-being extends *beyond physical fitness and nutritious eating habits, however, to include socialization, quality sleep, mental health, and a sense of responsibility to contribute to a more sustainable environment*
Global Housing Trends – New Housing Types

SUSTAINABLE

• Non-toxic materials
• Sustainable materials
• Biophilic design
• Aims for both efficiency and self-sufficiency (ex. energy consumption reduction and production)
• Passive design
• Green Building Certifications

New Block, a patented “green building solution” – created with affordability and livability in mind, New Block offers a cost-effective strategy for landowners and developers to maximize density on smaller lots, typically two-acre urban infill sites. Elements such as multi-family housing and an abundance of open space are part of New Block’s long-term sustainable concept.
Global Housing Trends – New Housing Types

**AFFORDABLE**

- Modern approaches are looking to address all of these new housing trends
- Compact layout
- Low-cost, inexpensive materials (usually not healthy or sustainable)
- Fast, cost-effective construction

Dortheavej Residence in Copenhagen, which has been recognized for creating generous living spaces on a strict budget through the use of modest materials and prefabricated components
THE INTERSECTION OF AFFORDABLE HOUSING WITH GLOBAL HOUSING TRENDS + TYPES
Not only do the “cost burdened” have to pay the financial price they are also most impacted by climate change, air pollution, water pollution, resource scarcity, etc.

- Is a house affordable if one can’t afford the utility costs?
- Or the burden on an occupants health relative to medical bills?
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The Intersection of Affordable Housing with Global Housing Trends + Types

**BENEFITS FOR TENANTS + COMMUNITY**

- Can reduce health problems associated with poor-quality housing
- Energy savings increase level of affordability for tenants
- Can improve health outcomes by freeing up family resources for nutritious food and health care expenditures
  - Families paying excessive amounts of their income for housing often have insufficient resources remaining for other essential needs, including food, medical insurance, and health care
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The Intersection of Affordable Housing with Global Housing Trends + Types

BENEFITS FOR TENANTS + COMMUNITY (cont.)

• Provides families with greater residential stability reducing stress and related adverse health outcomes

• Shared living reduces individual resource consumption, increased financial efficiency and sense of community

• Flexible spaces last the test of time ensuring a longer lifecycle of a building

• Modular and prefabricated buildings can support greater efficiency of building materials with reduced waste
The Intersection of Affordable Housing with Global Housing Trends + Types

**BENEFITS FOR DEVELOPERS**

• Investing in affordable housing with sustainability and wellness features can become a **driver for returns** for building owners by **increasing tenant retention and reducing costs associated with lease turnover**
  
  • Tenants saving money on utilities will also be less likely to leave the rental in the long run, providing more reliable sources of income

• Investing in housing that is flexible and shares resources could **reduce per square foot development costs** and attract a whole new demographic of people.

• While these incentives are great it isn’t always enough for developers to specifically create low-income and affordable housing.

  • **That’s where policy comes in.**
First, Some Definitions...

**AFFORDABLE HOUSING, INDIVIDUAL LEVEL**
Housing, including utilities, etc., which costs no more than 30% of your gross household income. (U.S. Department of Housing and Urban Development [HUD])

**AFFORDABLE HOUSING, COMMUNITY LEVEL**
Housing which a household of median income can rent or purchase for no more than 28-30% of gross household income, exclusive of other debt.

**MEDIAN HOUSEHOLD INCOME**
Income of the middle household on an ordered list of community household incomes, workforce and not; those above earn more, those below earn less. Also called Area Median Income (AMI). Median household income in Door County, 2016: ~$54,000.

**WORKFORCE HOUSING (SOMETIMES CALLED “ATTAINABLE” HOUSING)**
Housing affordable to those earning 60-120% of median household income.
What Exactly Are Door County’s Affordable Housing Issues?

- Long-standing shortage of rental units
- Long-standing shortage of housing for seasonal workers
- Quality of rental and/or seasonal worker housing
- Second home market drives up housing and land costs
- Increased tourism (conversion to transient housing)
- Building code requirements
- Zoning ordinance requirements
- Lack of land designated for multi-family or denser housing types
- Lack of public infrastructure (sewer and water)
- Construction costs always higher here; in 2018 went up everywhere
- More profitable to develop high-end housing
- Shortage of construction industry workers
Areas Served by Public Sewer

- Sister Bay/Liberty Grove
- Ephraim
- Fish Creek (Gibraltar)
- Village of Egg Harbor
- Baileys Harbor
- Institute & Valmy (Sevastopol)
- City of Sturgeon Bay
- Maplewood (Forestville)
- Village of Forestville
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Areas Served by Public Sewer + Public Water

- Sister Bay/Liberty Grove
- City of Sturgeon Bay
- Maplewood (Forestville)
Other Related Issues in Door County

- Employment opportunities not as varied or numerous as in other areas
- Seasonal tourism economy
- Transportation availability and costs
- Day care availability and costs
- Declining school enrollment
- Aging population
Door County’s Aging Population

**POPULATION PROJECTIONS BY AGE GROUP**

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Door County 2010</th>
<th>Door County 2040</th>
<th>State 2010</th>
<th>State 2040</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 24</td>
<td>23%</td>
<td>18%</td>
<td>33%</td>
<td>30%</td>
</tr>
<tr>
<td>25 - 64</td>
<td>54%</td>
<td>44%</td>
<td>53%</td>
<td>46%</td>
</tr>
<tr>
<td>65+</td>
<td>23%</td>
<td>38%</td>
<td>14%</td>
<td>24%</td>
</tr>
<tr>
<td>Total Population</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

United Way ALICE

Meet ALICE
Asset Limited, Income Constrained, Employed
Who or What is ALICE?

- Asset-Limited, Income-Constrained, & Employed
- A 17-state United Way collaborative project/study
- ALICE residents/households: above the federal poverty level, but budgets do not reach “household stability” level. An ALICE household lives on a “survival budget.”

Survival and stability budgets are derived for different household configurations, and account for spending on:

- Housing
- Food
- Transportation
- Healthcare
- Technology
- Childcare
- Savings
- Taxes
- Miscellaneous
• 2016 Door County “survival” budgets: $19,956 - $57,984 (ALICE minimum)
• 2016 Door County “stability” budgets: $33,168 - $107,220 (above ALICE)

Ranges = single adult household to two adults plus an infant and a preschooler.
According to HUD, $1,350 per month is affordable for housing for Door County’s median income households:

- $54,000 (AMI) divided by 12 months = $4,500.
- 30% of $4,500 = $1,350.

Realistically...

<table>
<thead>
<tr>
<th>ALICE Survival</th>
<th>ALICE Stability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monthly Income</td>
<td>$1,663 – 4,832</td>
</tr>
<tr>
<td>Housing allocation</td>
<td>$500 – 733</td>
</tr>
</tbody>
</table>

Ranges = single adult household to two adults plus an infant and a preschooler.
## Door County Home Purchase Costs

### 2018 Door County Housing Sales Statistics

(Source: Door County MLS)

<table>
<thead>
<tr>
<th>Market Category</th>
<th>Number of Sales</th>
<th>Average Price</th>
<th>Median Price</th>
<th>Price Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>All housing units</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northern Door</td>
<td>370</td>
<td>$376,568</td>
<td>$280,000</td>
<td>$45,000 - $3,100,000</td>
</tr>
<tr>
<td>Sturgeon Bay</td>
<td>147</td>
<td>$184,380</td>
<td>$154,000</td>
<td>$49,900 - $1,300,000</td>
</tr>
<tr>
<td>Southern Door</td>
<td>82</td>
<td>$226,709</td>
<td>$207,500</td>
<td>$26,500 - $556,000</td>
</tr>
<tr>
<td>Inland housing units (no water view, no waterfront)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northern Door</td>
<td>261</td>
<td>$268,137</td>
<td>$250,000</td>
<td>$45,000 - $1,000,000</td>
</tr>
<tr>
<td>Sturgeon Bay</td>
<td>129</td>
<td>$161,146</td>
<td>$148,500</td>
<td>$49,900 - $395,000</td>
</tr>
<tr>
<td>Southern Door</td>
<td>50</td>
<td>$195,014</td>
<td>$163,500</td>
<td>$26,500 - $425,000</td>
</tr>
</tbody>
</table>

In 2018, 61 homes were sold county-wide for between $60,000 - $125,000. 146 were between $125,000 - $199,999.
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Typical Mortgage Payments, 2018 Median Homes (waterfront and view excluded)

<table>
<thead>
<tr>
<th>Location</th>
<th>Median Price</th>
<th>Monthly Payment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northern Door</td>
<td>$250,000</td>
<td>$1,585/month</td>
</tr>
<tr>
<td>Central Door</td>
<td>$148,500</td>
<td>$1,056/month</td>
</tr>
<tr>
<td>Southern Door</td>
<td>$163,500</td>
<td>$1,135/month</td>
</tr>
</tbody>
</table>

Home loan assumptions:

- 10% down (note: many put only 5% down)
- 30 year mortgage
- 5% interest
- $2,400 property taxes
- $1,000 homeowner's insurance
### Door County Entry-Level Worker Incomes

<table>
<thead>
<tr>
<th>Position</th>
<th>Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>County patrol officer:</td>
<td>$56,160</td>
</tr>
<tr>
<td>Registered nurse (skilled nursing facility):</td>
<td>$55,162</td>
</tr>
<tr>
<td>County-employed social workers, nurses:</td>
<td>$48,318</td>
</tr>
<tr>
<td>Elementary teacher:</td>
<td>$36,000</td>
</tr>
<tr>
<td>Welder, cutter, solderer:</td>
<td>$32,000</td>
</tr>
<tr>
<td>Construction laborer:</td>
<td>$28,030</td>
</tr>
<tr>
<td>Hotel/motel clerk:</td>
<td>$23,500</td>
</tr>
<tr>
<td>Cook:</td>
<td>$20,400</td>
</tr>
</tbody>
</table>

Sources:  
- Wisconsin Department of Workforce Development (2017 figures)  
- Door County Medical Center (April 2019)  
- Door County Human Resources Department (April 2019)
Worker Incomes: Patrol Officer

<table>
<thead>
<tr>
<th></th>
<th>No Debt</th>
<th>Student Loan Debt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entry-level wage</td>
<td>$56,160</td>
<td></td>
</tr>
<tr>
<td>÷ 12 months</td>
<td>$4,680</td>
<td></td>
</tr>
<tr>
<td>Student loan payment*</td>
<td>--</td>
<td>$108</td>
</tr>
<tr>
<td>Monthly spending budget</td>
<td>$4,680</td>
<td>$4,572</td>
</tr>
<tr>
<td>Multiplied by 30%</td>
<td>$1,404**</td>
<td>$1,372</td>
</tr>
</tbody>
</table>

**Median home mortgage payment gap/surplus**

<table>
<thead>
<tr>
<th></th>
<th>Northern Door: $1,585</th>
<th>Central Door: $1,056</th>
<th>Southern Door: $1,135</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$181</td>
<td>$348</td>
<td>$269</td>
</tr>
<tr>
<td></td>
<td>$213</td>
<td>$316</td>
<td>$237</td>
</tr>
</tbody>
</table>

*Associates degree average student loan debt $9,900, repaid over 10 years @ 5.8% interest
** Monthly affordable housing budget per HUD
**EVERY DAY IS EARTH DAY 2019 | GREEN DOOR LEGACY ROUNDTABLE: HOUSING**

**Worker Incomes: Registered Nurse**

<table>
<thead>
<tr>
<th>No Debt</th>
<th>Student Loan Debt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entry-level wage</td>
<td>$55,162</td>
</tr>
<tr>
<td>÷ 12 months</td>
<td>$4,597</td>
</tr>
<tr>
<td>Student loan payment*</td>
<td>--</td>
</tr>
<tr>
<td>Monthly spending budget</td>
<td>$4,597</td>
</tr>
<tr>
<td>Multiplied by 30%</td>
<td>$1,379**</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Median home mortgage payment gap/surplus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northern Door: $1,585</td>
</tr>
<tr>
<td>Central Door: $1,056</td>
</tr>
<tr>
<td>Southern Door: $1,135</td>
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</tbody>
</table>

*Bachelors degree average student loan debt $19,162, repaid over 10 years @ 5.8% interest

**Monthly affordable housing budget per HUD**
EVERY DAY IS EARTH DAY 2019 | GREEN DOOR LEGACY ROUNDTABLE: HOUSING

Worker Incomes: County Social Worker, Nurse

<table>
<thead>
<tr>
<th></th>
<th>No Debt</th>
<th>Student Loan Debt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entry-level wage</td>
<td>$48,318</td>
<td></td>
</tr>
<tr>
<td>÷ 12 months</td>
<td>$4,027</td>
<td></td>
</tr>
<tr>
<td>Student loan payment*</td>
<td>--</td>
<td>$210</td>
</tr>
<tr>
<td>Monthly spending budget</td>
<td>$4,027</td>
<td>$3,817</td>
</tr>
<tr>
<td>Multiplied by 30%</td>
<td>$1,208**</td>
<td>$1,145</td>
</tr>
</tbody>
</table>

**Median home mortgage payment gap/surplus**

<table>
<thead>
<tr>
<th></th>
<th>Northern Door: $1,585</th>
<th>$377</th>
<th>$440</th>
</tr>
</thead>
<tbody>
<tr>
<td>Central Door:</td>
<td>$1,056</td>
<td>$152</td>
<td>$89</td>
</tr>
<tr>
<td>Southern Door:</td>
<td>$1,135</td>
<td>$73</td>
<td>$10</td>
</tr>
</tbody>
</table>

*Bachelors degree average student loan debt $19,162, repaid over 10 years @ 5.8% interest

** Monthly affordable housing budget per HUD
**EVERY DAY IS EARTH DAY 2019 | GREEN DOOR LEGACY ROUNDTABLE: HOUSING**

Worker Incomes: Elementary Teacher

<table>
<thead>
<tr>
<th></th>
<th>No Debt</th>
<th>Student Loan Debt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entry-level wage</td>
<td>$36,000</td>
<td></td>
</tr>
<tr>
<td>÷ 12 months</td>
<td>$3,000</td>
<td></td>
</tr>
<tr>
<td>Student loan payment*</td>
<td>--</td>
<td>$210</td>
</tr>
<tr>
<td>Monthly spending budget</td>
<td>$3,000</td>
<td>$2,790</td>
</tr>
<tr>
<td>Multiplied by 30%</td>
<td>$900**</td>
<td>$837</td>
</tr>
</tbody>
</table>

**Median home mortgage payment gap/surplus**

<table>
<thead>
<tr>
<th>Region</th>
<th>No Debt</th>
<th>Student Loan Debt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northern Door: $1,585</td>
<td>$685</td>
<td>$748</td>
</tr>
<tr>
<td>Central Door: $1,056</td>
<td>$156</td>
<td>$219</td>
</tr>
<tr>
<td>Southern Door: $1,135</td>
<td>$235</td>
<td>$298</td>
</tr>
</tbody>
</table>

*Bachelors degree average student loan debt $19,162, repaid over 10 years @ 5.8% interest

** Monthly affordable housing budget per HUD
**EVERY DAY IS EARTH DAY 2019 | GREEN DOOR LEGACY ROUNDTABLE: HOUSING**

Worker Incomes: Welder/Cutter/Solderer

<table>
<thead>
<tr>
<th></th>
<th>No Debt</th>
<th>Student Loan Debt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entry-level wage</td>
<td>$32,000</td>
<td></td>
</tr>
<tr>
<td>÷ 12 months</td>
<td>$2,667</td>
<td></td>
</tr>
<tr>
<td>Student loan payment*</td>
<td>--</td>
<td>$108</td>
</tr>
<tr>
<td>Monthly spending budget</td>
<td>$2,666</td>
<td>$2,559</td>
</tr>
<tr>
<td>Multiplied by 30%</td>
<td>$800**</td>
<td>$768</td>
</tr>
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</table>

**Median home mortgage payment gap/surplus**

<table>
<thead>
<tr>
<th>Location</th>
<th>Without Debt</th>
<th>With Debt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northern Door: $1,585</td>
<td>$785</td>
<td>$817</td>
</tr>
<tr>
<td>Central Door: $1,056</td>
<td>$256</td>
<td>$288</td>
</tr>
<tr>
<td>Southern Door: $1,135</td>
<td>$335</td>
<td>$367</td>
</tr>
</tbody>
</table>

*Associates degree average student loan debt $9,900, repaid over 10 years @ 5.8% interest

** Monthly affordable housing budget per HUD
## Worker Incomes: Construction Laborer

<table>
<thead>
<tr>
<th></th>
<th>No Debt</th>
<th>Student Loan Debt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entry-level wage</td>
<td>$28,030</td>
<td></td>
</tr>
<tr>
<td>÷ 12 months</td>
<td>$2,336</td>
<td></td>
</tr>
<tr>
<td>Student loan payment*</td>
<td>--</td>
<td>$108</td>
</tr>
<tr>
<td>Monthly spending budget</td>
<td>$2,336</td>
<td>$2,228</td>
</tr>
<tr>
<td>Multiplied by 30%</td>
<td>$701**</td>
<td>$668</td>
</tr>
</tbody>
</table>

### Median home mortgage payment gap/surplus

<table>
<thead>
<tr>
<th>Location</th>
<th>No Debt</th>
<th>Surplus</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northern Door:</td>
<td>$884</td>
<td>$917</td>
</tr>
<tr>
<td>Central Door:</td>
<td>$355</td>
<td>$388</td>
</tr>
<tr>
<td>Southern Door:</td>
<td>$434</td>
<td>$467</td>
</tr>
</tbody>
</table>

*Associates degree average student loan debt $9,900, repaid over 10 years @ 5.8% interest
** Monthly affordable housing budget per HUD
## Worker Incomes: Hotel/Motel Clerk

<table>
<thead>
<tr>
<th></th>
<th>No Debt</th>
<th>Student Loan Debt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entry-level wage</td>
<td>$23,500</td>
<td></td>
</tr>
<tr>
<td>÷ 12 months</td>
<td>$1,958</td>
<td>$108</td>
</tr>
<tr>
<td>Student loan payment*</td>
<td>--</td>
<td>$108</td>
</tr>
<tr>
<td>Monthly spending budget</td>
<td>$1,958</td>
<td>$1,850</td>
</tr>
<tr>
<td>Multiplied by 30%</td>
<td>$587**</td>
<td>$555</td>
</tr>
</tbody>
</table>

### Median home mortgage payment gap/surplus

<table>
<thead>
<tr>
<th>Location</th>
<th>No Debt</th>
<th>Student Loan Debt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northern Door: $1,585</td>
<td>$998</td>
<td>$1,030</td>
</tr>
<tr>
<td>Central Door: $1,056</td>
<td>$469</td>
<td>$501</td>
</tr>
<tr>
<td>Southern Door: $1,135</td>
<td>$548</td>
<td>$580</td>
</tr>
</tbody>
</table>

*Associates degree average student loan debt $9,900, repaid over 10 years @ 5.8% interest

** Monthly affordable housing budget per HUD
Worker Incomes: Cook

<table>
<thead>
<tr>
<th></th>
<th>No Debt</th>
<th>Student Loan Debt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Entry-level wage</td>
<td>$20,400</td>
<td></td>
</tr>
<tr>
<td>÷ 12 months</td>
<td>$1,700</td>
<td>$108</td>
</tr>
<tr>
<td>Student loan payment*</td>
<td>--</td>
<td>$108</td>
</tr>
<tr>
<td>Monthly spending budget</td>
<td>$1,700</td>
<td>$1,592</td>
</tr>
<tr>
<td>Multiplied by 30%</td>
<td>$510**</td>
<td>$478</td>
</tr>
</tbody>
</table>

**Median home mortgage payment gap/surplus**

<table>
<thead>
<tr>
<th></th>
<th>No Debt</th>
<th>Student Loan Debt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northern Door:</td>
<td>$1,585</td>
<td>$1,075</td>
</tr>
<tr>
<td>Central Door:</td>
<td>$1,056</td>
<td>$546</td>
</tr>
<tr>
<td>Southern Door:</td>
<td>$1,135</td>
<td>$625</td>
</tr>
</tbody>
</table>

*Associates degree average student loan debt $9,900, repaid over 10 years @ 5.8% interest

** Monthly affordable housing budget per HUD
Door County Worker Incomes: Monthly Affordability Gap for Home Purchase, Summary by Job

*Lower number in each range is for those with no student loan debt. Higher number is for those with average student loan debt.*

<table>
<thead>
<tr>
<th>Job</th>
<th>Northern</th>
<th>Central</th>
<th>Southern</th>
</tr>
</thead>
<tbody>
<tr>
<td>County Patrol Officer</td>
<td>$181 - $213</td>
<td>$316 - $348</td>
<td>$237 - $269</td>
</tr>
<tr>
<td>Registered Nurse (skilled nursing facility)</td>
<td>$206 - $269</td>
<td>$260 - $323</td>
<td>$181 - $244</td>
</tr>
<tr>
<td>County-Employed Social Worker, Nurse</td>
<td>$377 – 440</td>
<td>$89 – 152</td>
<td>$10 - 73</td>
</tr>
<tr>
<td>Teacher</td>
<td>$685 – 748</td>
<td>$156 – 219</td>
<td>$235 – 298</td>
</tr>
<tr>
<td>Welder/Cutter/Solderer</td>
<td>$785 – 817</td>
<td>$256 – 288</td>
<td>$335 – 367</td>
</tr>
<tr>
<td>Construction laborer</td>
<td>$884 – 917</td>
<td>$355 – 388</td>
<td>$434 – 467</td>
</tr>
<tr>
<td>Hotel/motel clerk</td>
<td>$99 – 1,030</td>
<td>$469 – 501</td>
<td>$548 – 580</td>
</tr>
<tr>
<td>Cook</td>
<td>$1,075 – 1,107</td>
<td>$546 – 578</td>
<td>$625 – 657</td>
</tr>
</tbody>
</table>
## Rents in Door County

<table>
<thead>
<tr>
<th></th>
<th>Efficiency</th>
<th>One-Bedroom</th>
<th>Two-Bedroom</th>
<th>Three-Bedroom</th>
<th>Four-Bedroom</th>
</tr>
</thead>
<tbody>
<tr>
<td>HUD FMR 2018*</td>
<td>$493</td>
<td>$588</td>
<td>$718</td>
<td>$974</td>
<td>$978</td>
</tr>
<tr>
<td>Sister Bay**</td>
<td></td>
<td></td>
<td>$1,160-1,185</td>
<td>$1,275-1,325</td>
<td></td>
</tr>
<tr>
<td>Sturgeon Bay**</td>
<td>$815</td>
<td>$1,025</td>
<td>$975</td>
<td></td>
<td>$1,145</td>
</tr>
<tr>
<td></td>
<td>$845</td>
<td>$975</td>
<td>$1,125</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$725</td>
<td>$870</td>
<td>$1,545</td>
<td></td>
<td>$1,800+</td>
</tr>
<tr>
<td></td>
<td>$675</td>
<td>$917</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$1,110</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$693</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>$845-895</td>
<td></td>
<td>$975-1,025</td>
<td></td>
<td>$1,095-1,145</td>
</tr>
</tbody>
</table>

* HUD FMR = U.S. Housing & Urban Development Fair Market Rent.
** Source = ApartmentFinder.com, April 11, 2019

Note: Figures are not included for the 21 of 30 ApartmentFinder listings showing no availability.
## Worker Incomes Compared to Rents

<table>
<thead>
<tr>
<th>Housing Budget</th>
<th>Lowest-Priced Available Apartment</th>
<th>Highest-Priced Available Apartment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 bedroom rent in City</td>
<td>$675</td>
<td>$1,110</td>
</tr>
<tr>
<td>Patrol Officer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No debt: $1,404</td>
<td>$729</td>
<td>$294</td>
</tr>
<tr>
<td>With debt: $1,372</td>
<td>$697</td>
<td>$262</td>
</tr>
<tr>
<td>Registered Nurse</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No debt: $1,379</td>
<td>$704</td>
<td>$269</td>
</tr>
<tr>
<td>With debt: $1,316</td>
<td>$641</td>
<td>$206</td>
</tr>
<tr>
<td>County Social Worker, Nurse</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No debt: $1,208</td>
<td>$533</td>
<td>$98</td>
</tr>
<tr>
<td>With debt: $1,145</td>
<td>$470</td>
<td>$35</td>
</tr>
</tbody>
</table>
Worker Incomes Compared to Rents (continued)

<table>
<thead>
<tr>
<th>Housing Budget</th>
<th>Lowest Priced Available Apartment</th>
<th>Highest Priced Available Apartment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 bedroom rent in City</td>
<td>$675</td>
<td>$1,110</td>
</tr>
<tr>
<td>Elementary teacher</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No debt: $900</td>
<td>$225</td>
<td>$210</td>
</tr>
<tr>
<td>With debt: $837</td>
<td>$162</td>
<td>$273</td>
</tr>
<tr>
<td>Welder, cutter, solderer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No debt: $800</td>
<td>$125</td>
<td>$310</td>
</tr>
<tr>
<td>With debt: $768</td>
<td>$93</td>
<td>$342</td>
</tr>
<tr>
<td>Construction laborer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No debt: $701</td>
<td>$26</td>
<td>$409</td>
</tr>
<tr>
<td>With debt: $668</td>
<td>$7</td>
<td>$442</td>
</tr>
<tr>
<td>Housing Budget</td>
<td>Lowest Priced Available Apartment</td>
<td>Highest Priced Available Apartment</td>
</tr>
<tr>
<td>----------------------</td>
<td>-----------------------------------</td>
<td>------------------------------------</td>
</tr>
<tr>
<td>1 bedroom rent in City</td>
<td>$675</td>
<td>$1,110</td>
</tr>
<tr>
<td>Hotel/motel clerk</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No debt: $587</td>
<td>$88</td>
<td>$523</td>
</tr>
<tr>
<td>With debt: $555</td>
<td>$120</td>
<td>$555</td>
</tr>
<tr>
<td>Cook</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No debt: $510</td>
<td>$165</td>
<td>$600</td>
</tr>
<tr>
<td>With debt: $478</td>
<td>$197</td>
<td>$632</td>
</tr>
</tbody>
</table>
PAST AND ON-GOING WORK

• Door County Economic Development Corporation (DCEDC) Attainable Housing Committee (est. ~2000)
• 2-3 housing summits
• Several studies, rental housing inventories
• CDBG funds
• Habitat for Humanity, Lakeshore CAP, DC Housing Authority, USDA, WHEDA
• County, city, villages
• Developers, Door County Board of REALTORS
• Employers
• Educational efforts

NEW EFForts

• AECOM study commissioned by DCEDC (completed 2019)
• DCEDC Symposium (February 2019)
• County, city, villages, towns
• NeighborWorks Green Bay
• Reinvigorated housing trust (Door County Housing Partnership)
• Interfaith Prosperity Coalition
QUANTIFY THE PROBLEM. RECOMMEND STRATEGIES.

Analysis by geographic area:

- Northern Door (everything north of Sevastopol)
- Central Door (City of Sturgeon Bay, Towns of Sturgeon Bay, Sevastopol, and Nasewaupee)
- Southern Door (Clay Banks, Forestville Town, Forestville Village, Union, Gardner)

Analysis within each area on three topics:

- Year-round workforce housing (60-120% of AMI; for Door County in 2016, $32,400-$64,800)
- Year-round senior housing (living independently)
- Seasonal housing (beds)
Workforce Rental Apartments “Needed” But Not Constructed, 2010-2017:

Northern Door: 140
Central Door: 330

Workforce Rental Apartments Needed, 2018-2023:

Northern Door: 65
Central Door: 45

Rents need to be generally between $500-$1,000/month, with more than half in the $500-$799 range.

Southern Door was found to not be lacking in apartments now, nor projected to be in the next five years.
Workforce Owner-Occupied Units Needed, 2018-2023:

Northern Door: 40
Central Door: 30

All but five in each area need to be priced between $60,000-$124,999, and 75-80% should be single-family residences.

Southern Door was determined to not need any affordable owner-occupied homes for workforce households beyond what would be expected to be available in the next five years.
SENIOR HOUSING NEEDED, 2018-2023

RENTAL APARTMENTS
NORTHERN DOOR: 60
CENTRAL DOOR: 135
SOUTHERN DOOR: 5

OWNER-OCCUPIED HOMES
NORTHERN DOOR: 295
CENTRAL DOOR: 275
SOUTHERN DOOR: 5
SEASONAL HOUSING NEEDED (BEDS)

SHORTAGE, 2010-2017
NORTHERN DOOR: 200
CENTRAL DOOR: 205
SOUTHERN DOOR: 50

PROJECTED NEED, 2018-2023
NORTHERN DOOR: 70
CENTRAL DOOR: 40
SOUTHERN DOOR: 5

NO ANALYSIS WAS PROVIDED REGARDING RECOMMENDED RENT LEVELS.
AECOM’s Recommended Strategies

**Funding**
- Allocation of municipal TIF proceeds supporting affordable housing
- Establishment of special real estate transfer taxes and impact fees
- Establishment of special sales tax and hotel rates or Premier Resort Area Taxes
- Access federal and state tax credit, grant, and loan programs
- Generated income from rental properties or property sales

**Administration: Public, Private, and Public-Private Partnerships**
- Door County Economic Development Corporation (DCEDC)
- Municipal staff
- DC Housing Authority
- Local units of government
- Door County Tourism Zone Commission
- NeighborWorks Green Bay
- Housing trust or similar organization
AECOM’s Recommended Strategies (continued)

**Specific Actions**

- Amend zoning codes to allow higher/more flexible densities, taller buildings, less public hearings
- With local governments, identify properties to proactively rezone and/or (re)develop for housing, esp. on or near public sewer & water
- Evaluate potential expansion of public sewer and water facilities
- Consider dorm(s), like constructed in Dells area, for seasonal beds
- Encourage employer-assisted programs
- Enhance trades curriculum at NWTC
- Expand county GIS layers to include housing layer: unit count, occupancy type, unit condition and features, etc.
- 100% count of seasonal beds; ID properties to be used for more
- Annual outreach to owners of 9,990 seasonally occupied units
- On-line clearinghouse listing available 12-month rental properties
ALLOWANCES ALREADY IN PLACE

- Small-lot residential zoning districts
- Single-family homes
- Secondary dwelling units
- Accessory residences
- Duplexes
- Multiple occupancy developments
- Conservation subdivisions
- Campgrounds
Secondary Dwelling Unit Example (In Conjunction with Single-Family Use)
Accessory Residence Examples (In Conjunction with Commercial Use)
Conservation Subdivision Examples
• Farmhouse split-off from large agricultural parcels
• Small vacant lots split off from large agricultural parcels
• Manufactured homes
• Seasonal dwellings for agricultural production and processing workers
• Boardinghouses
• “Tiny homes”
• Impervious surface allowance flexibility
Things Still To Do, Zoning-Related

- Identify, with municipalities, any areas or lots that could be (re)developed, rezoned for housing
- Review/revise zoning codes with incorporated municipalities
- Overhaul regulations for multi-family developments (density continuum, lot size, permit types)
- Decrease minimum home size requirements
- Eliminate “seasonal” component of housing allowances for agricultural workers
- Consider providing density incentives if developer is including affordable housing, employee housing, and/or using green building practices
Next Steps

- Review/revision of zoning ordinance(s)
- Meetings with developers
- (Re)establishment of nonprofit housing trust
- Community discussions/meetings
- On-going discussions between DCEDC, municipal staff, local and regional nonprofits, local elected officials, state and federal agencies
  - Identification of sites
  - Identification of funds/incentives/tools to use
    - Necessary at front-end and/or back-end of projects, for developers and/or households.
A HISTORY + FUTURE OF AFFORDABLE HOUSING
The Global Housing Crisis

Scarce, unaffordable housing is not a local problem in a few places, but is baked into the 21st-century global city. It’s time for cities, nations, and global leaders to start acting like it.
Since 1950, the average cost of construction in the U.S. has risen from $44.75 per square foot to $118.70 per square foot.*

The highest jump has occurred since 2000. HGTV was introduced in the mid 1990s, and Houzz.com was launched in 2009, both impacting consumer choices in higher-cost amenities.


*in today’s dollars
Why are our Homes Now More Costly?

**TYPICAL AFFORDABLE HOME: 1950s-1970s**

- 1-2 Bathrooms
- Modest Kitchen
- Carpet & Vinyl Flooring
- Basic Appliances
- Basic Window Package
- Single-Load Closets
- 5000 SF Urban Lot Size

**TYPICAL HOME: 1980-PRESENT**

- 2-3+ Bathrooms
- “Cook’s Kitchen”
- Wood & Tile Flooring
- Enhanced Appliances
- More & Better Windows
- Walk-In Closets
- 8500+ SF Urban Lot Size
ADDITIONAL FACTORS AFFECTING HOUSING COSTS

- Housing Bubble & 2008 Recession
  - Causing Lack Of Spec Houses
- Shrinking Labor Force
- Tariffs And Trade Wars
- Homes Converted to AirBnB, VRBO to Augment Household Income
- Increasingly Powerful Storms And Fires Destroying Current Housing Stock
Since 1950 the size of average U.S. houses has risen from 983 square feet to the current size of nearly 2500 square, while the size of average U.S. households has shrunk from 3.37 to 2.53.

The overall square footage per person has risen in the same period from 292 to 957, a 328% increase.

The average square foot per person throughout Europe is 538 square feet.
Middle household income has remained nearly flat since 1970.

Today’s Wisconsin average household income = $59,305.

Rule of thumb: mortgage = 3X annual income.

House mortgage for average Wisconsin household = $177,915 (house & lot)
• Average house size: 864 sf
• Average lot size: 50'X100'
• Built of 4’ module design
• 1-car garage
1940s: the birth of automobile-based society:

- Sidewalks eliminated.
- Alleys eliminated
- Grid-based planning.
- Homogeneous house designs.
TODAY’S CHALLENGE:

ABOUT 3 BILLION PEOPLE, OR 40 PERCENT OF THE WORLD’S POPULATION, WILL NEED NEW HOUSING BY 2030. THAT WILL REQUIRE CONSTRUCTING APPROXIMATELY 21 MILLION NEW HOMES EVERY YEAR ACROSS THE WORLD.

WHAT KINDS OF HOMES WILL THEY BE?

“The choices of where and how affordable homes are constructed and maintained can make the difference between improving quality-of-life for low-income and vulnerable families, or further burdening them with costs and social isolation. One critical choice is the efficiency of the housing. Energy-efficient housing is more affordable over its lifetime than non-efficient buildings. And when benefits beyond direct costs are accounted for—like improved health, increased productivity, new jobs and less pollution—the benefits outweigh the costs many times over.

-World Resources Institute
Efficiently designed homes with small footprint
Compact zoning and lot sizes
Energy efficient, low-carbon construction
EVERY DAY IS EARTH DAY 2019 | GREEN DOOR LEGACY ROUNDTABLE: HOUSING

Small + Tiny Houses

TINY HOUSE: <250 SF; PORTABLE

SMALL HOUSE: 300-1000 SF

Starting at $260,000

800 SF; PREFAB
Co-Housing

- Mixed-generation
- Mixed Income
- Small Private Dwelling
- Sharing Community Space
- Shared Tasks:
  - Cooking
  - Gardening
  - Maintenance
  - Child Care
  - Elder Care
Local Affordable Housing Programs

NEIGHBORWORKS-GREEN BAY

GREEN BAY REHAB: CITY-SUPPORTED
EVERY DAY IS EARTH DAY 2019 | GREEN DOOR LEGACY ROUNDTABLE: HOUSING

Housing Conversions

- SINGLE FAMILY TO MULTI-FAMILY
- COMMERCIAL BUILDING SECOND FLOORS TO APARTMENTS
Urgent Need for **Energy Efficient Housing**

- Poor housing quality and low incomes contributes to **fuel poverty**...
- For low-income households this cost...can be as high as a fifth of household income and more than a quarter of total housing costs.
- Mean residential energy expenditures increased by **27 percent** from 2001 to 2005, to $1,522, and by almost **20 percent** to $1,822 by fiscal year 2009.
- For that reason, improving energy efficiency has been pointed out as one of the challenges for American housing by the Joint Center for Housing Studies.
Buildings contribute over 30% of atmospheric CO2: construction, electrical, heating and cooling.
Housing Impact on Global Resiliency

CO₂

(ten-year running average)

1998-2007

1992-2001

1948-1957
Global Wildfires
Keep it small. Start planning at about 300 square feet per person.

Reduce complexity. **Simple shapes** without architectural intricacy are cheaper to build, insulate, and air seal.

**Stretch living spaces.** Include outdoor areas such as porches, balconies, and gardens. Include extra storage space in the unconditioned garage and under stairwells.

**Optimize design.** Use a computer energy model to get the most cost-effective balance of architecture, building shell, equipment efficiency, and solar technology.

**Site for solar gain.** Orient the building so that roughly half of the window area faces within 30° of south.
Pathways to Energy Efficient Housing

- **Focus on Energy**: requires third party testing. Home energy performance estimated at 15% better than code
- **DoE Zero Energy Ready Homes program**: 40-50% better than code
- **LEED**: comprehensive sustainability planning, with points earned for size, location, water & energy savings
- **Passive/WUFI**: modeling & construction methodology to create 90% better efficiency than code
- **The Living Building Challenge**: “petals” earned for water, energy, site, etc. “Buildings give more than they take”
DOOR COUNTY LEGACY: SMALL HOMES IN NATURE
EVERY DAY IS EARTH DAY 2019 | GREEN DOOR LEGACY ROUNDTABLE: HOUSING

Certified Passive House

- Consumes approximately 90% less energy to heat and cool
- Healthier
- Lower carbon footprint
## ENERGY EFFICIENT VS STANDARD CONSTRUCTION

**VTA CASE STUDIES: 2400 SF HOME**

### STANDARD CONSTRUCTION

- 2X6 walls w/ R19 insulation
- R34 Roof
- R10 foundation
- Standard air sealing
- ResCheck energy modeling
- Standard HVAC (80,00 Btuh)

- Construction Cost: $353,031
- 30-year mortgage pmts: $2011

### HIGH-EFFICIENCY CONSTRUCTION

- 2X12 double stud walls w/ R45 insulation
- R64 roof
- R20 foundation
- Passive House energy modeling
- High-Efficiency HVAC (11,200 Btuh)

- Construction cost: $370,683
- 30 year mortgage pmts: $2107

- Estimated Energy Savings/month: -$128
- Net savings per month: $32
Financing for Enhanced Energy Performance

• "...even though LMI households spend less on energy bills overall, they spend nearly 15 percent more per square foot on energy ($1.09 per square foot for those making under $60,000, compared to $0.95 per square for those making $60,000 or more per year) (Energy Information Administration 2012).”

• PACE program (for commercial and multi-family)
• Wisconsin Focus on Energy
• Fannie Mae HomeStyle Energy program for retrofits (saves average of $145/year on utility bills)
2018 Global Green Grades States for Green Building Practices in Low Income Housing, 29% of US States Scored an A

Wisconsin was the *only* state receiving an F.

We have nowhere to go but up.
THANK YOU