



Environmental Management Council

DEVELOPMENT WITH THE EARTH IN MIND:

The Compelling Need for Sustainable Community Development
and Environmental Protection

*Nick Goldsmith, David West, Lauren Gabuzzi, Brent
Katzmann, Noah Demarest, and George Frantz*

New Format for this EMC Public Meeting

- No EMC committee reports
 - See the handout for our updates!
- 6 presentations
- 10 minutes each
- Q&A discussion to follow presentations
- Light refreshments after Q&A



Environmental Management Council



Hold your questions to the end of **ALL** presentations.



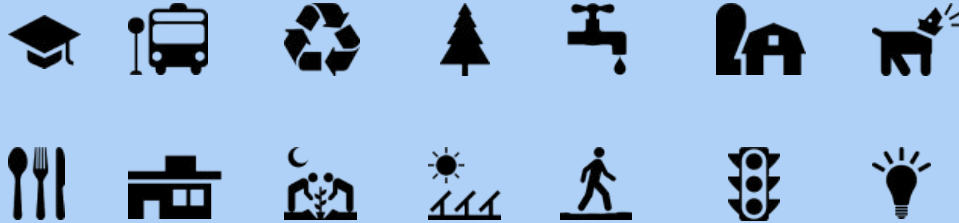
Ithaca Green New Deal



NICK GOLDSMITH, TOWN OF ITHACA & CITY OF ITHACA

PRESENTATION FOR
EMC OUTREACH EVENT

OCTOBER 17, 2019





Ithaca Green New Deal



City of Ithaca Common Council adopted a Green New Deal on June 5

- Unanimous vote 9-0
- Addresses climate change, economic inequality and racial injustice





Ithaca Green New Deal



Lead by Example

The City has adopted goals for its own operations:

- Meet the electricity needs of City government operations with **100% renewable electricity by 2025**
- **Reduce emissions from City vehicle fleet by 50% by 2025**





Ithaca Green New Deal



Create a Green New Deal Action Plan in 2020

- Assign **additional staff** to create and implement the plan.
- Facilitate a comprehensive **public engagement process to co-create a plan** for our community to achieve the Green New Deal goals.
- **Report on progress** and update the plan regularly.





Ithaca Green New Deal



Adopt a Green Building Code for New Buildings

- A new local energy code is expected to be in place soon that will require all new buildings in Ithaca to produce 40% fewer greenhouse gas emissions than required by state code. **Net-zero new construction will be required by 2030.**

Ithaca Energy Code Supplement

DRAFT - August 8, 2019



Ithaca Green New Deal



Adopt a Green Building Code for Existing Buildings

- The City will study programs and policies to **reduce emissions in existing buildings** in 2020 and will enact legislation by 2021.





Ithaca Green New Deal



Current Actions

- **Communications**
 - GND Website
 - Near-term messaging
- **Building Capacity for 2020**
 - Lining up funding
 - Organizational structure
 - Meeting community groups
- **City Budget and Staffing**
 - 2020 Budget hearings in October
 - ▣ 1 new Sustainability Manager
 - ▣ \$100,000 for GND action plan





What does that mean?

How do we get there?

- **New Buildings**
 - Net-zero construction
- **Existing Buildings**
 - Deep energy retrofits
 - Electrification of space and water heating
 - Behavioral change
- **Transportation**
 - Reduce vehicle miles traveled
 - Electrification
- **All sectors: power with renewables**
- **Carbon dioxide removal through afforestation and other methods**



Thank You!



Nick Goldsmith
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City of Ithaca, NY

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cityofithaca.org/642/Green-New-Deal



Housing Demand and Impact of Development Patterns on GHG Emissions

David West

Senior Planner – Housing, TC Department of Planning and
Sustainability

Overview

- Do we have a really need for more housing?
- If we build efficient buildings, is that enough?
- Does it matter what types of housing we build?

Housing Strategy, 2017

- A conservative estimate of housing need
 - 580 new workforce housing units every year
 - 1,500 bed deficit at Cornell
 - 100-200 subsidized senior apartments needed
- Focus new housing in Development Focus Areas
- Support households with additional needs

**Trends
Driving
Housing
Demand**

Existing Deficit

Population increase

**Falling Household Size –
Millennials and Boomers**

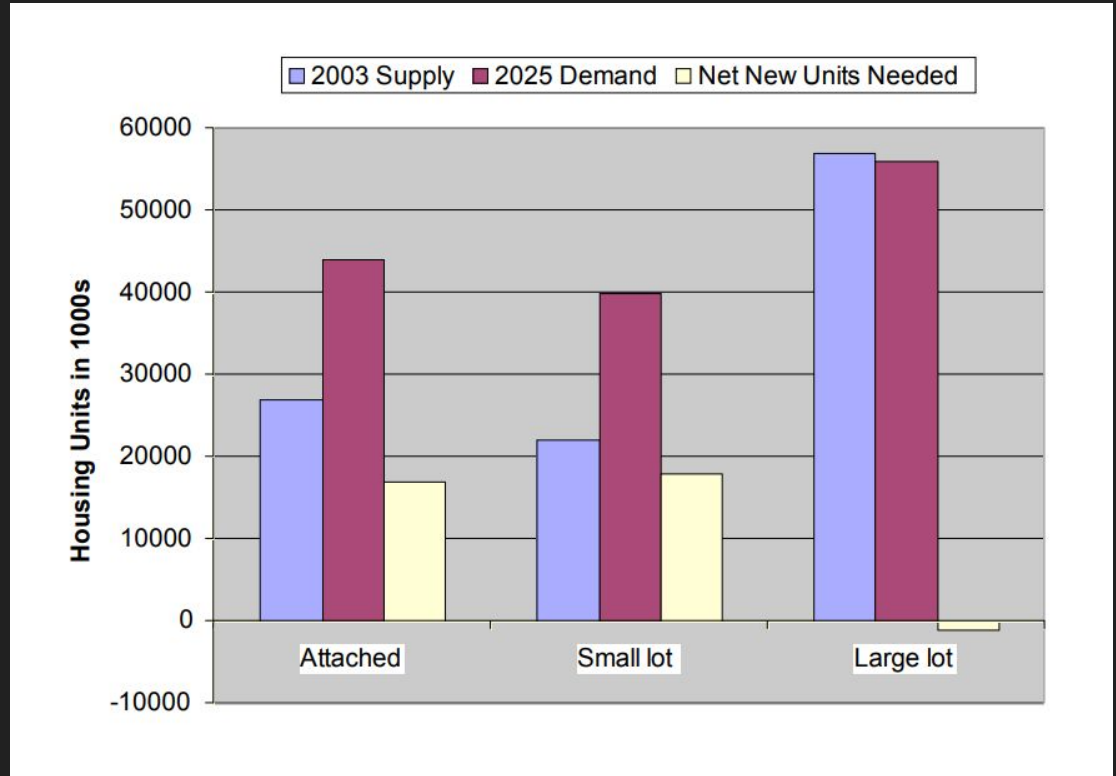
**More Housing Units
Needed**

National Housing Demand

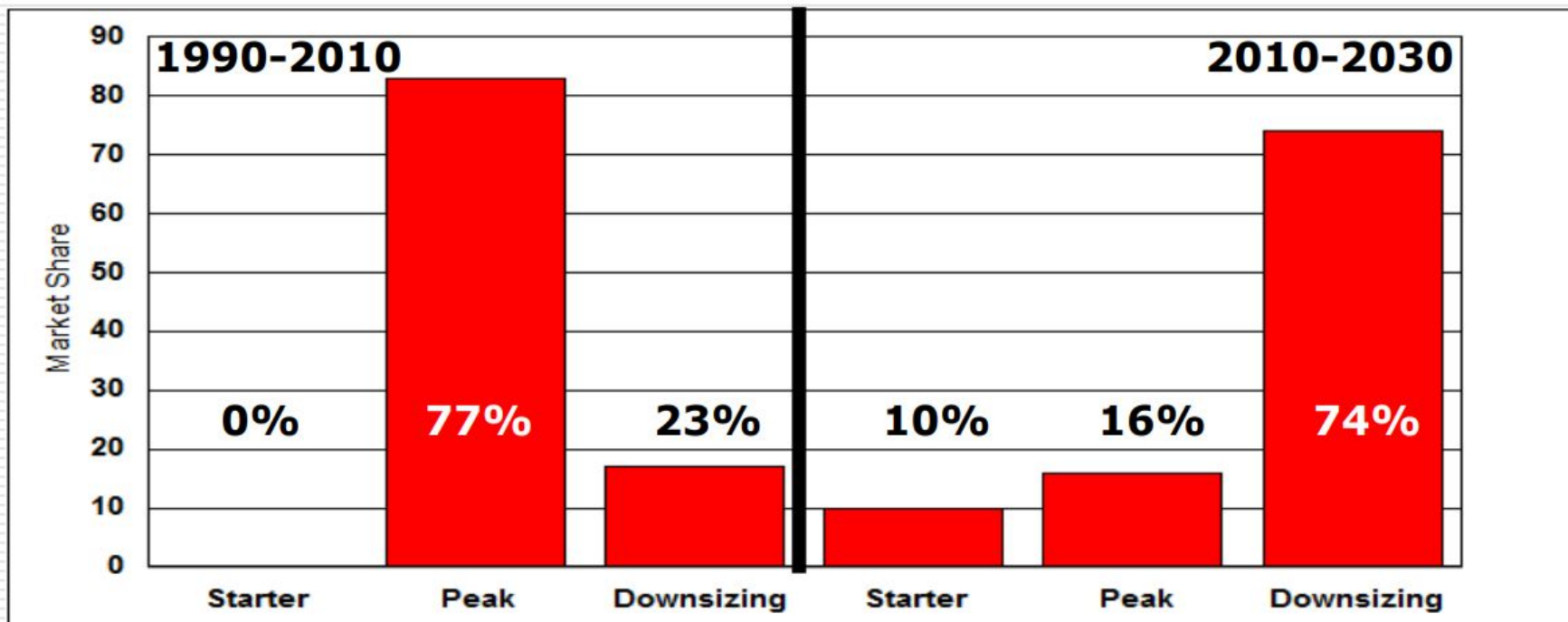
2003 Supply

vs

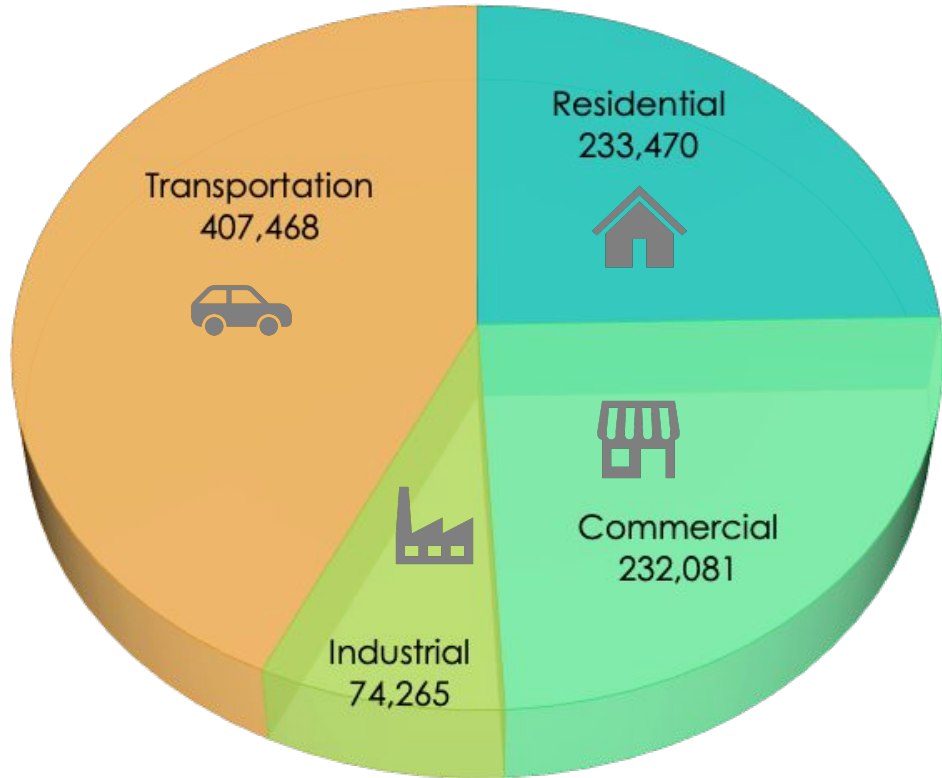
2025 Demand



What a Difference a Generation Makes



Connecting Housing Demand with GHG Emissions



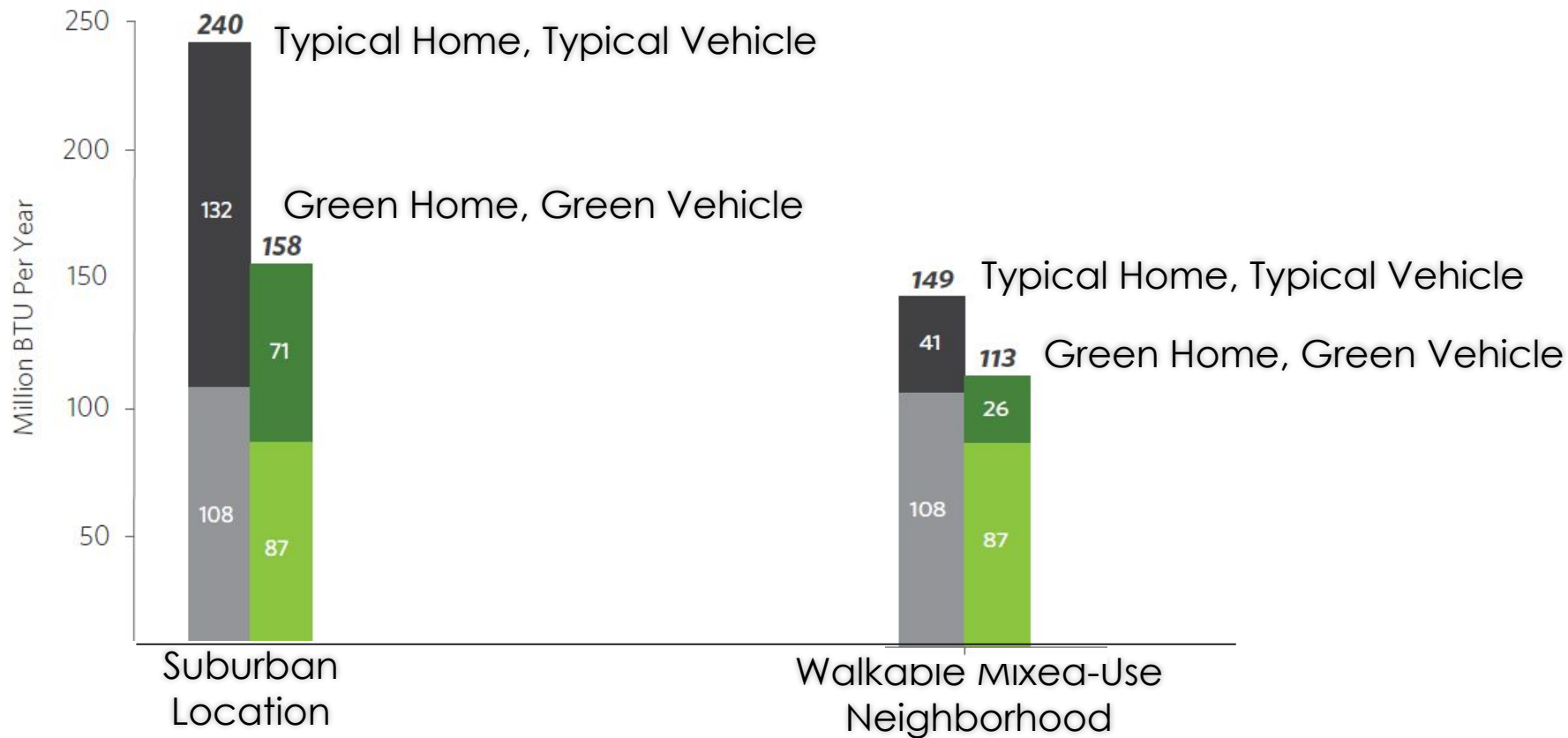
TOMPKINS COUNTY

2008 GHG EMISSIONS (MTCO2E)

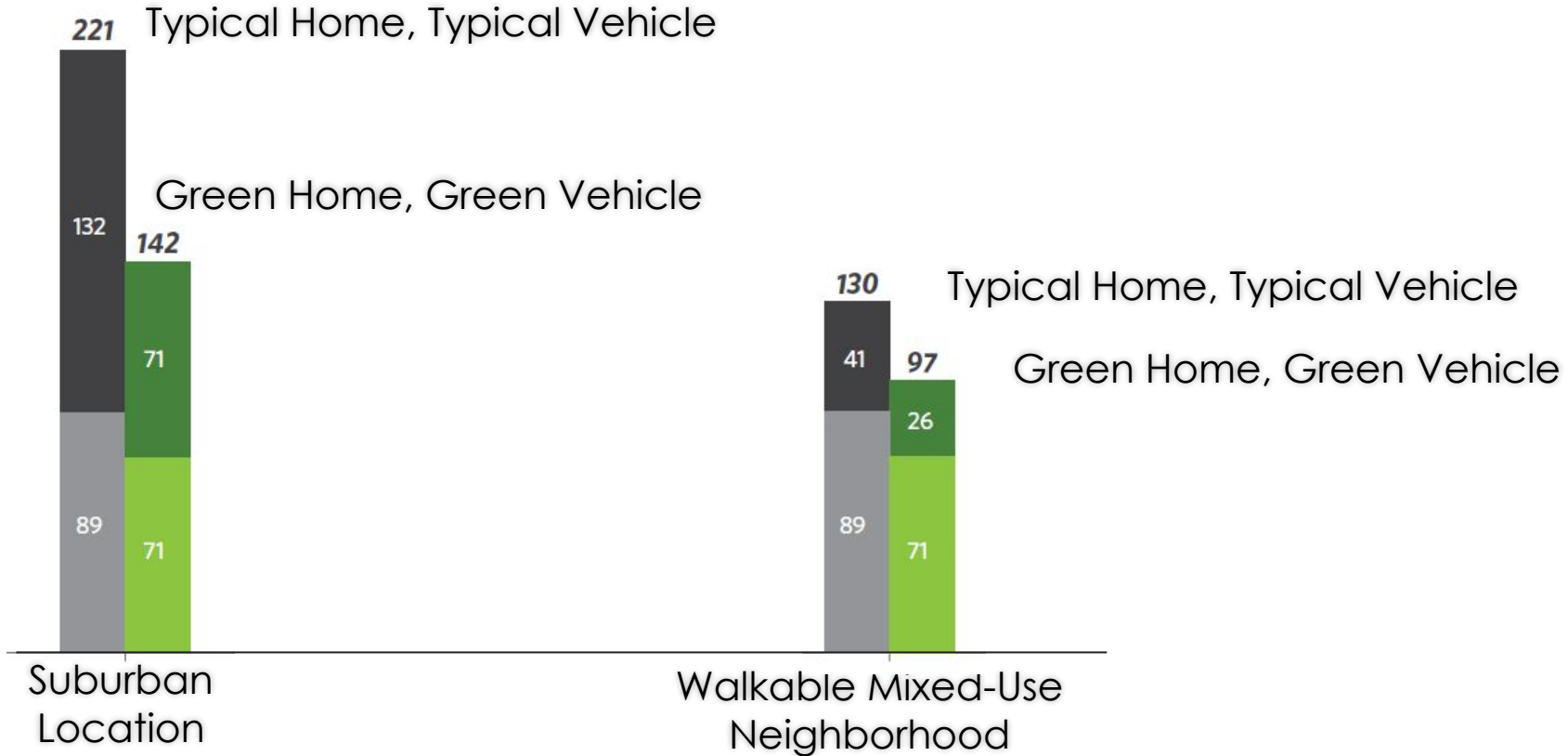
Housing & GHG Emissions

- Housing Type
 - Detached vs Attached vs Multi-Family
- Location Type
 - Suburban vs Walkable
- Technology
 - Vehicle Efficiency
 - Building Efficiency

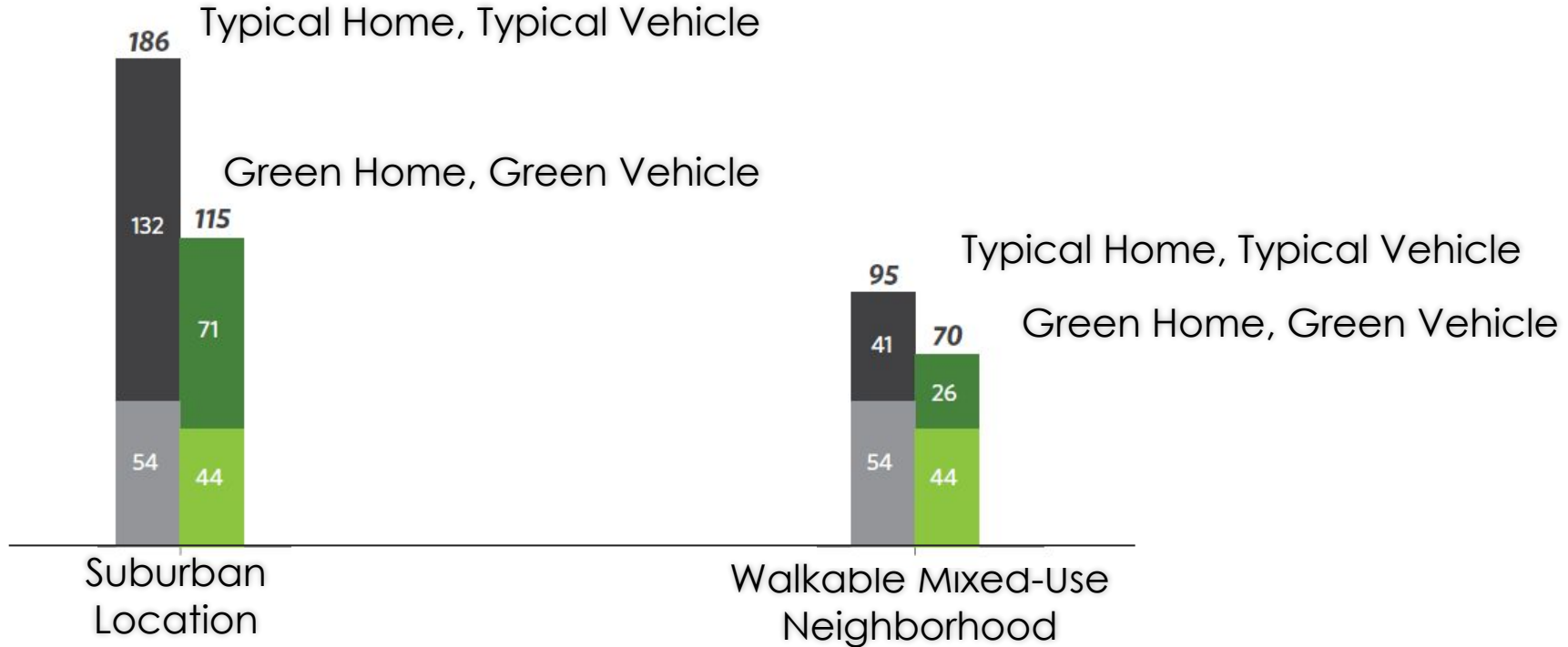
Single Family Detached



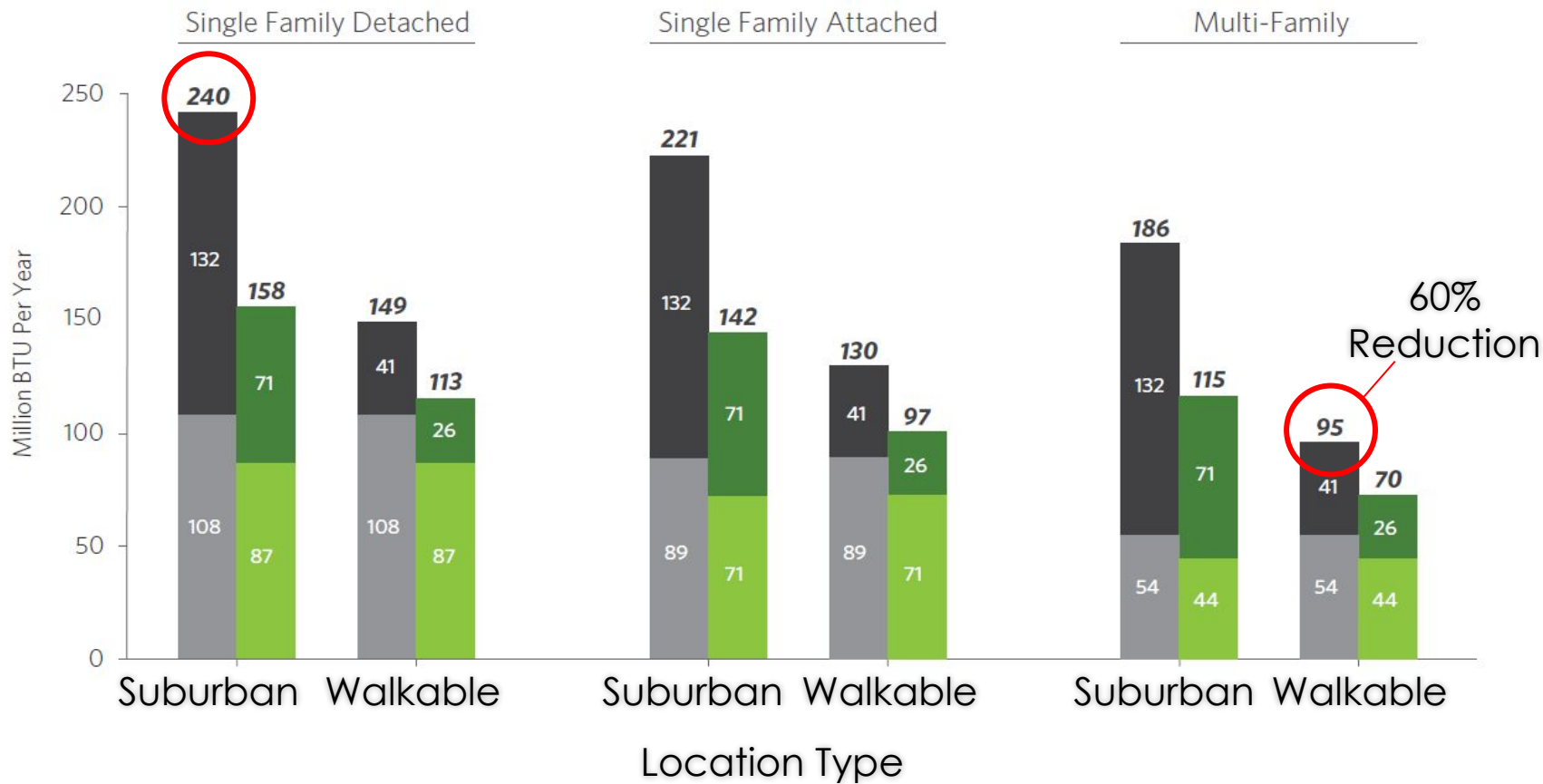
Single Family Attached



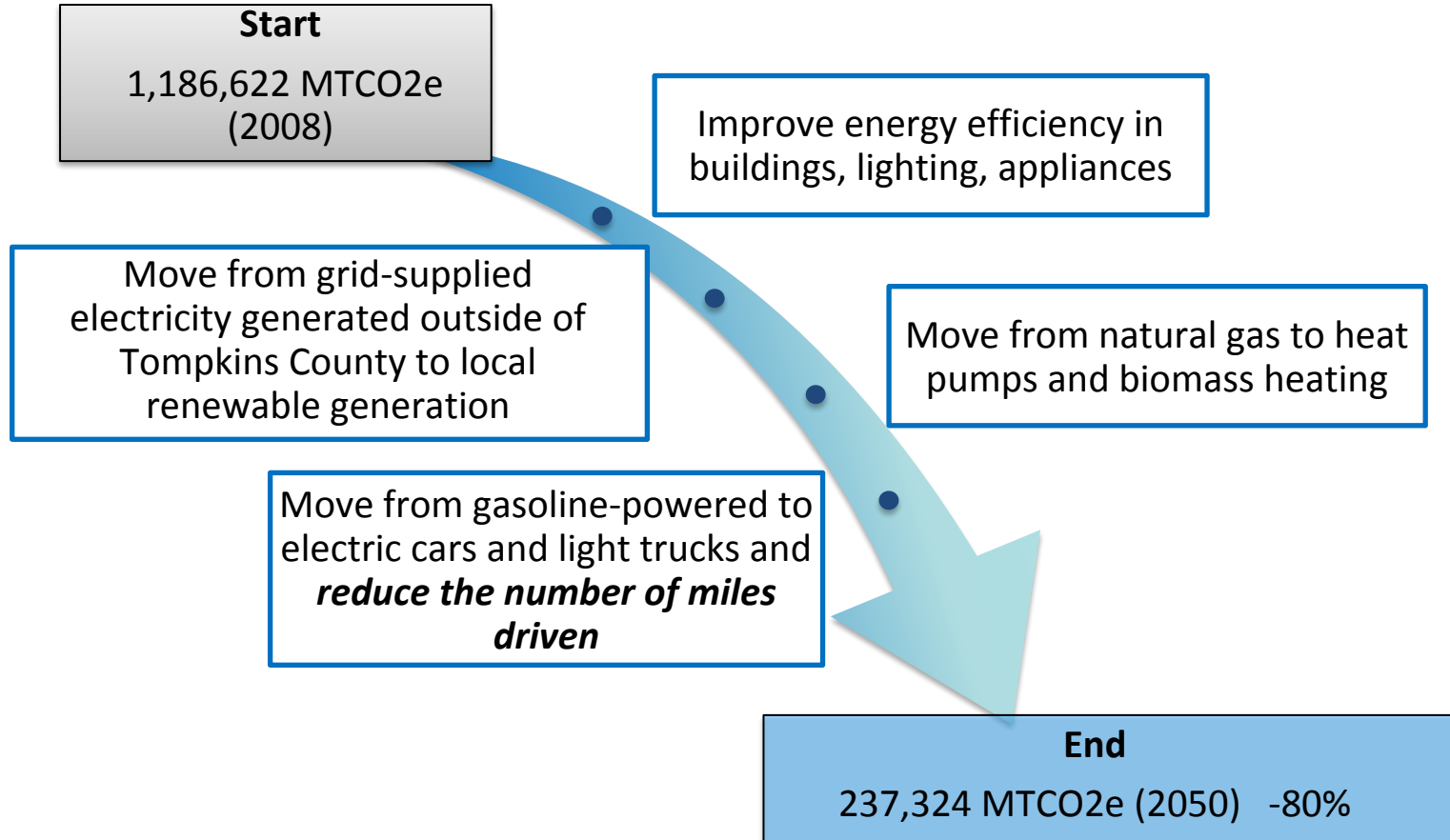
Multi-Family



Transportation Energy Use
 W/ Green Automobiles
 Home Energy Use
 W/ Green Buildings



Tompkins County Energy Roadmap



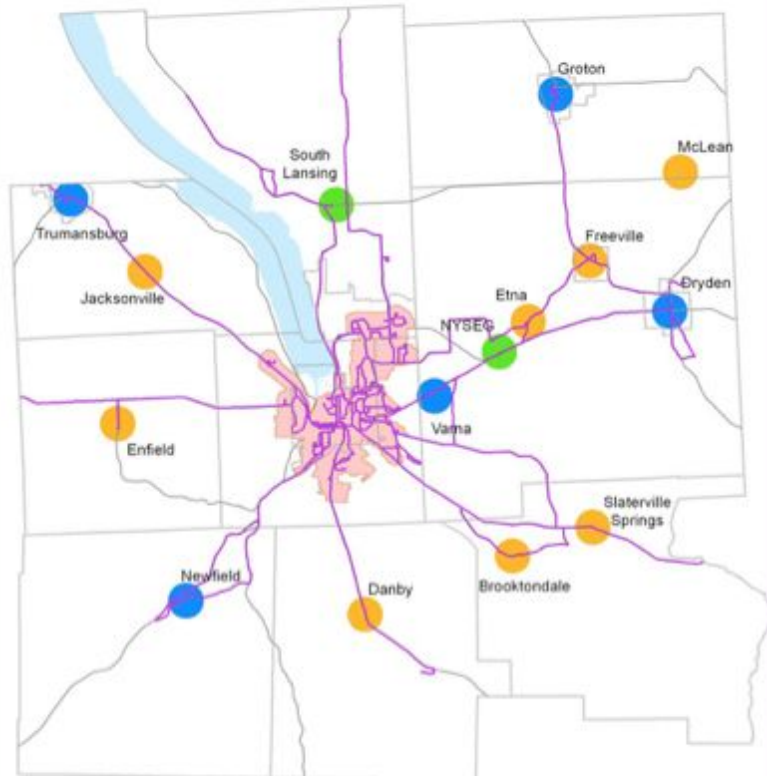
Energy Roadmap

- At least 23.8% reduction in vehicle miles traveled required - no new VMT over 2008
- Personal auto trips = +95% of VMT in TC
- Increase in fuel economy from CAFÉ standards suspended by Trump Administration
 - Reductions were included in 'business as usual scenario' that reduction was calculated from

Comprehensive Plan

- Development Patterns
 - Compact Walkable Neighborhoods
 - Mix of Land Uses
- Healthy Neighborhoods
 - Encourage Active Lifestyle, Active Transportation
- Transportation
 - Reduce the use of fossil fuels in transportation.
 - Shift travel away from driving-alone to biking, walking, carpooling/ridesharing, and using public transit.
 - Support a pattern of land use that allows people to move efficiently and affordably.

Development Focus Areas



- Urban Center
- Established Node
- Emerging Node
- Rural Center
- Municipal Boundaries
- Cayuga Lake
- State Highways
- Bus Routes



Development Focus Areas Strategy

Complete, Compact, Connected

- Studies consistently find a reduction in VMT of:
 - 25% to 57%
 - Density
 - Diversity of uses
 - Accessible destination
 - Interconnected streets

https://www.epa.gov/sites/production/files/2014-03/documents/location_efficiency_btu.pdf

Conclusions

- We have a real need for more housing
 - Not building is not an option
- Where housing is built has major GHG implications
- Housing type has major GHG implications



Planning with Transportation Integration

Lauren Gabuzzi,
Transportation Demand Management Program
Manager, Downtown Ithaca Alliance/Go Ithaca

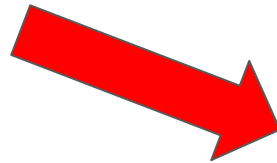
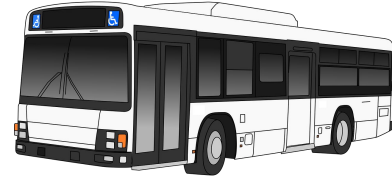
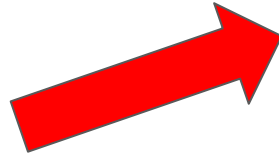


[Transportation GHG emissions](#)

Green Certification for Transportation!!



Transportation Demand Management



Strategies to Create Behavior Change

Physical

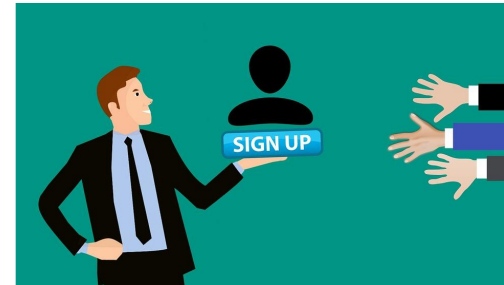
- Transit integration
- Roadway improvements
- Bike facilities
- Carpool spaces
- Carshare location



Operational

OUTREACH

- Carshare membership
- Promotion and education
- Flex work schedules
- Subsidize transit



Why TDM in Ithaca?

- Vibrant downtown development
- Mindset already here



GREEN NEW DEAL



Anticipated Parking Demand

- ▶ Harold Square -150 Spaces
- ▶ City Centre - 90 Spaces
- ▶ 202 The Commons - 50 to 100 spaces
- ▶ Green Street Redevelopment - 80 Spaces
- ▶ Canopy Hotel - 60 Average Spaces

Total Projected Demand: 450 - 500 Spaces

Excess Capacity in the Downtown Garages: 126 Spaces

Projected Parking Shortage: 325 - 375 Spaces

Program Goals

- Create Transportation Management Association
- Reduce daily average of parked cars by 600
- Support downtown residents and workers to thrive



Commuter Benefit Program

80%



Commuter All-Star

Kris Lewis

- Lived on bus route
- Drove to work daily
- Tried the bus
- Drive → Bus



Is Green Development Sustainable?

The challenges facing small-scale development of healthy housing people can afford to own.

A few interesting questions:

1. Why aren't more developers creating single family homes in our community?
2. How can the market absorb the cost of new construction without exacerbating the existing high cost of ownership?
3. How does climate change impact how and where we design and build new housing?



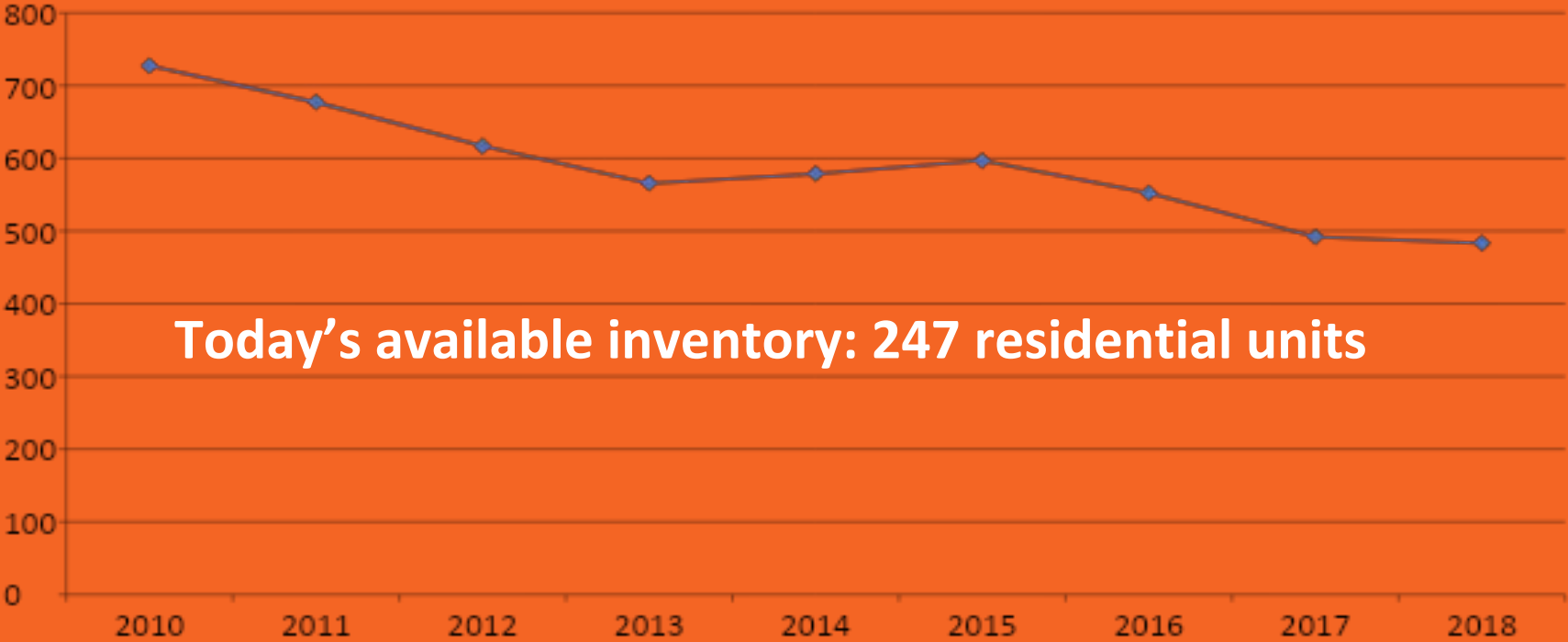
Hint

Due to increasing property values, the affordability ceiling for many buyers has already been hit. New construction and development costs can't compete with existing housing stock on price.

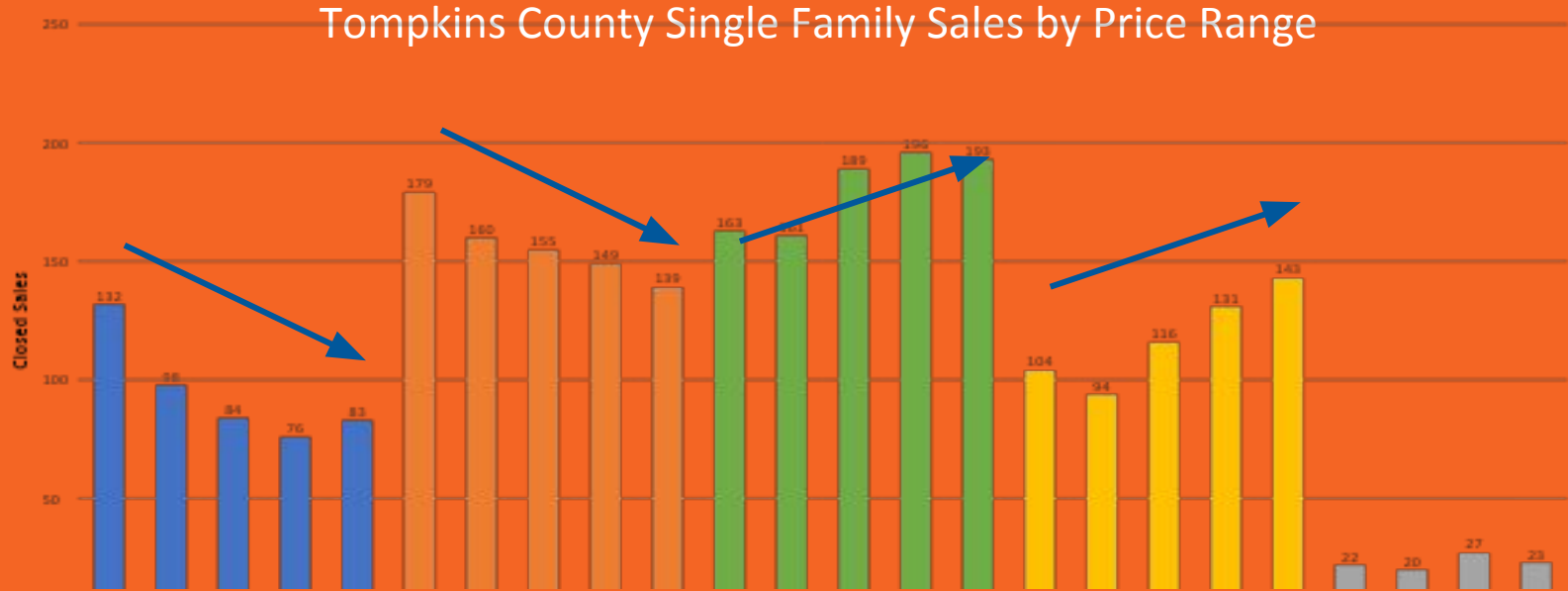
Trends in the Single Family Residential Market in Tompkins County



Ithaca Area Inventory Declining Over Time



Price growth is shifting the entry market upward



Source: Ithaca Board of REALTORS multiple listing service. Information is deemed reliable, but not guaranteed.

Avg Sales Price continues to climb throughout ICSD

School	2016	2017	2018	2019 YTD	% +/- YAG
BJM	\$269,438	\$255,430	\$278,170	\$328,217	+18.0
Belle Sherman	\$247,519	\$266,892	\$297,680	\$310,107	+4.2
Caroline	\$239,708	\$259,676	\$258,647	\$264,793	+2.4
Cayuga Heights*	\$349,169	\$390,614	\$387,795	\$419,575	+8.2
Enfield*	\$242,708	\$240,094	\$199,098	\$163,627	-17.8
Fall Creek	\$242,492	\$269,660	\$248,157	\$248,575	+0.2
Northeast	\$294,760	\$320,445	\$298,562	\$311,608	+4.4
South Hill	\$265,653	\$290,132	\$275,230	\$286,150	+4.0

Source: Ithaca Board of REALTORS multiple listing service. Information is deemed reliable, but not guaranteed.

1 in 4 listings sell at or above list price in a week or less

Price	% of sales @ or Above List Price	Avg Premium Paid	Median DOM
100-150,000	20.3	1.98%	5
150-200,000	26.3	5.53%	8
200-250,000	30.1%	4.99%	4
250-300,000	30.2%	3.55%	7

Source: Ithaca Board of REALTORS multiple listing service. Information is deemed reliable, but not guaranteed.

Trumansburg and Newfield also seeing solid increases in Avg Sales Price YTD

School	2016	2017	2018	2019 YTD	% +/- YAG
Ithaca	\$269,184	\$284,980	\$286,945	\$304,095	+6.0
Dryden	\$171,151	\$175,385	\$190,396	\$193,752	+1.8
Groton	\$138,274	\$153,977	\$138,900	\$140,301	+1.0
Lansing*	\$315,145	\$316,757	\$289,391	\$271,264	-6.3
Newfield	\$180,283	\$151,531	\$167,847	\$174,295	+3.8
Trumansburg*	\$205,158	\$225,787	\$195,962	\$241,348	+23.2

Source: Ithaca Board of REALTORS multiple listing service. Information is deemed reliable, but not guaranteed.

This prices homeownership beyond the reach of most mid-market buyers.

Household Size & Makeup	Annual Income (80% AMI)	Annual Income (120% AMI)	Purchase Price & Payment (80% AMI)	Purchase Price & Payment (120% AMI)
1 Person Household One Wage Earner	\$42,340	\$63,500	\$67,258; \$882/mo	\$239,570; \$2,117/mo
2 Person household One Wage Earner + one Dependent; or Two Wage Earners	\$48,380	\$72,580	\$76,853; \$1,008/mo	\$273,827; \$2,419/mo
3 Person Household One Wage Earner + two Dependents; or Two Wage Earners + one Dependent	\$54,430	\$81,650	\$86,464; \$1,134/mo	\$308,046; \$2,722/mo
4+ Person Household One Wage Earner + three or more Dependents; or Two Wage Earners + two or more Dependent	\$60,480	\$90,720	\$96,074; \$1,260/mo	\$342,265; \$3,035/mo

Sources: U.S. Census Bureau, via factfinder.census.gov

So You Make \$100,000? It Still Might Not Be Enough to Buy a Home.

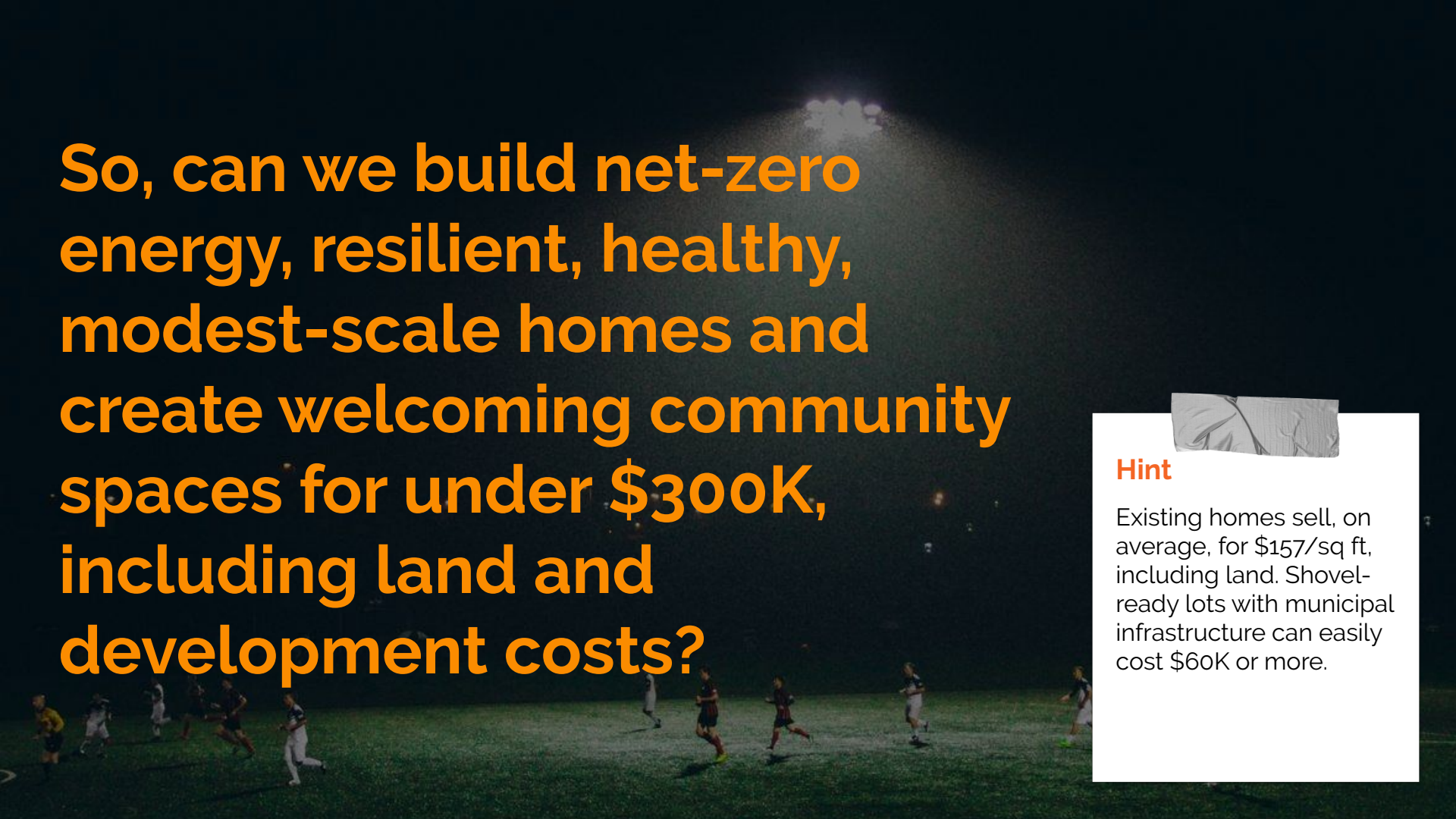
The Wall Street Journal, 10/15/2019

A record number of six-figure-income families rent, as student debt and meager savings cloud their financial future. Because buying a house was historically a pathway to savings, this phenomenon could exacerbate the nation's wealth gap.



Implication:

Detached single family home ownership may become a less common, and less desirable, option for many millennials and boomers.



So, can we build net-zero energy, resilient, healthy, modest-scale homes and create welcoming community spaces for under \$300K, including land and development costs?



Hint

Existing homes sell, on average, for \$157/sq ft, including land. Shovel-ready lots with municipal infrastructure can easily cost \$60K or more.

Meet Tiny Timber

Founded in 2016 by Buzz Dolph and began with his early vacation rental prototypes.

Further developed through many months of design work and strategy sessions with STREAM Collaborative and Warren Real Estate.

Nearly two dozen Tiny Timber homes sold and built.

Homes feature advanced energy-saving systems and simple, small-space designs and sold for between \$185,000 and \$300,000, including land.

By these measures, Tiny Timber was a tremendous success.



the
Cottages at
FALL CREEK CROSSING



A Tiny Timber Community in Varna, NY.



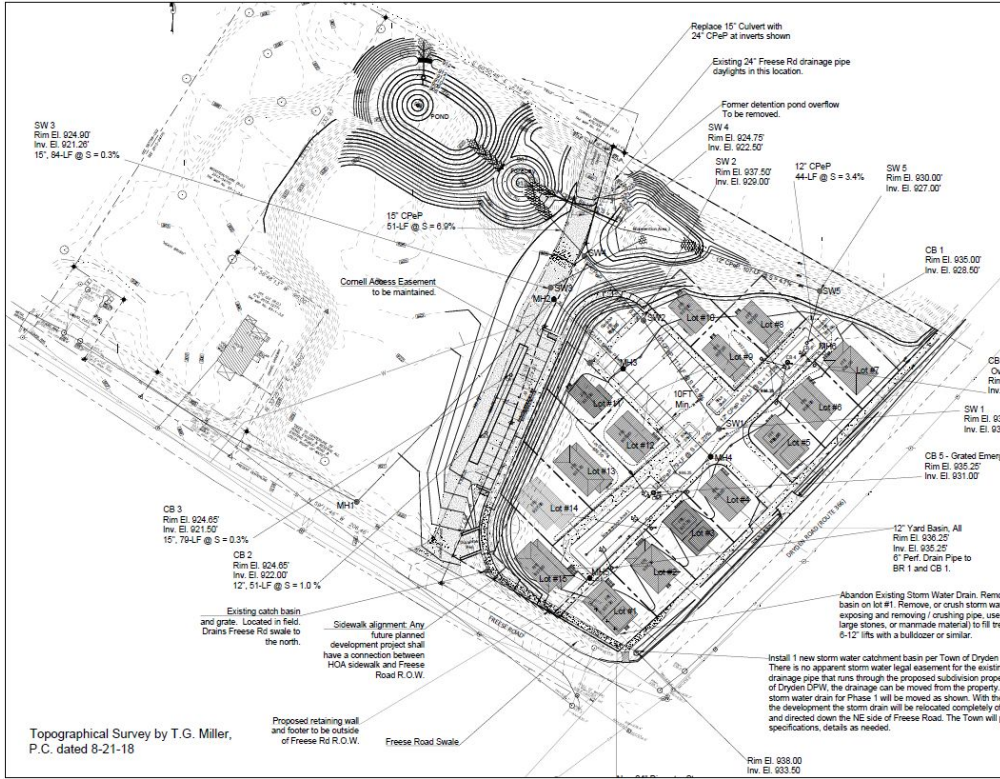
**WHAT'S NOT TO
LIKE?**

15 SINGLE FAMILY 2
AND 3 BEDROOM
HOMES

1 MILE FROM CU

ON TCAT

LISTED FROM \$285 -
\$315,000



Barriers

High cost of pre-development work

Lack of access to pre-development capital

Unexpected municipal requirements

Developers bear the cost of both their work and the municipalities' review

Lengthy start-up process



Opportunities

Building towards a resilient future, the current systems of financing, approving, and servicing single family housing construction needs new thinking.

1. Financing Opportunities

- Include cost of energy and transportation in total housing cost calculations for mortgages
- Offer access to pre-development soft cost funding for local developers
- Allow for shared infrastructure in detached single family/two-family residential development financing
- Consider longer mortgage amortizations or low cost ARMs

2. Municipal Opportunities

- Fund the Infrastructure requirements that can enable cluster development in targeted development zones or allow site-specific water and sewer districts
- Support public transit expansion of services including first-last mile pilot
- Streamline approvals
- Make all developer requirements transparent at the outset

2. Zoning Opportunities

- Expand zoning permissions for accessory dwelling unit, two-family and cluster development
- Allow for shared housing arrangements — embrace the shared economy
- Expand mixed-use zones to targeted development areas



Thank you!

Please let me know where and how I can help.

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607-280-8353

Designing for longevity

Successes and failures in the pursuit of sustainable development in Ithaca

Noah Demarest AIA, ASLA, LEED AP, CNU

Principal











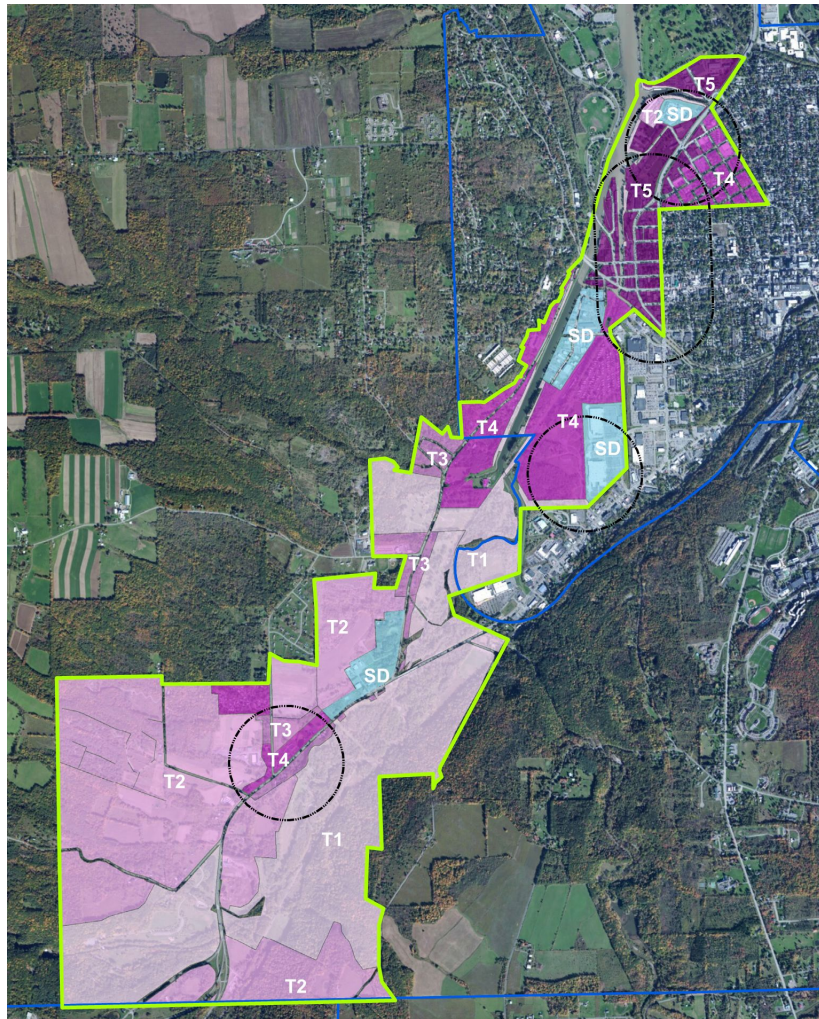


















City as Sponge



October 17, 2019

George R. Frantz, AICP, ASLA
Associate Professor of the Practice
Department of City & Regional Planning
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Cornell AAP
Architecture Art Planning

New Urban Policy

- 2016 - New State Council urbanization guidelines released
- Cities should act “like sponges”
- 16 cities in pilot program
- Funding from Beijing for experiments with ways to:
 - reduce urban stormwater runoff
 - absorb and hold rainfall in dense urban areas



Shanghai 2035 Master Plan



- No increase in urban footprint:
 - Recycle/redevelop land
 - Densify
 - Underground retail
- “15-Minute Life Cycle” – key public service within 15-minute walk of all residents
- Construction Restricted Areas (agricultural lands)



City as Sponge

- Improve flood resilience
- Reduce flood potential
- Harvest rainwater:
 - retain, recycle, recharge
- Remove urban runoff pollutants



City as Sponge

- Bioswales/porous pavement
- Enhanced urban tree canopy
- Green roofs
- Wetland parks





Xi'an: Fengxi New District

- 500,000 residents
- 1st “ground-up”
Sponge City
- Green infrastructure
- Wetland parks



Xian - Fengxi New District

Central Green Gallery

- Key element in Sponge City design
- 55 ac/23 ha
- Artificial wetlands, woodlands, other landscape elements
- Storage + treatment + infiltration
- Public park & open space





Houtan Park

Shanghai

- 34 ac./14.2 ha. (2010)
- Riverfront brownfield redevelopment
- Stormwater control & treatment for 1 sq. mi. Expo 2010 site

Top photo courtesy: Kongjian Yu/Landscape Architecture Foundation



Cornell AAP
Architecture Art Planning



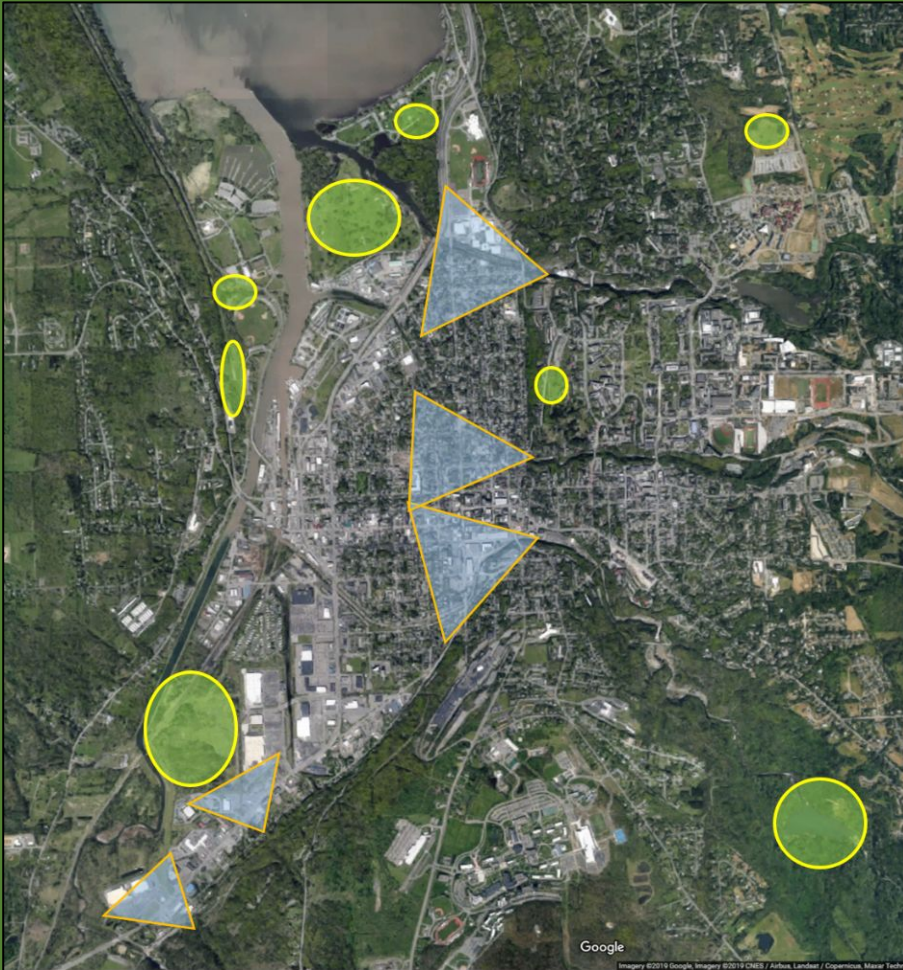
Houtan Park Shanghai

- Uses biological processes to treat polluted river water
- Biodiversity: 93 species of plants and over 200 species of animals



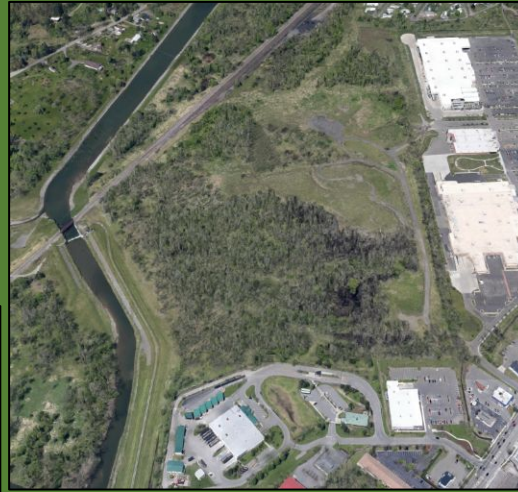
Opportunity

- Alluvial fans and ancient beaches w/ well-drained soils
- Hydric soils conducive to wetland development
- Backyard rain gardens
- Permeable pavements
- Green roofs



Opportunity

Southwest Park, Ithaca (right);



Town of Newburgh proposed district stormwater management concept (below).



- Town of Ithaca Inlet Valley Plan
- Town of Geneva Comprehensive Plan
- DEC Stormwater Design Guidelines



Fall Creek home with stormwater infiltration system under driveway.



Cornell AAP
Architecture Art Planning

Questions?

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Cornell AAP
Architecture Art Planning

Thank you to our speakers!

Nick Goldsmith,

David West,

Lauren Gabuzzi,

Brent Katzmann,

Noah Demarest, and

George Frantz



Environmental Management Council