TC CPI Tompkins County Climate Protection Initiative

Minutes – Friday, September 29, 2023
Video Conference
9 am to 11 am

Attending: Edward Solomon, Dave Bradley, Chris Skawski, Dan Lamb, Ingrid Zabel, Diane Stefani, Jack Wright, Jaden Beck, Janelle Bourgeois, Leigh Miller, Leon Porter, Marie McRae, Mike Straight, Sophie Pappas, Dawn Montanye, Holly Hutchinson, Terry Carroll, Tom Hirasuna, Alice Green, Brian Eden, Guillermo Metz, Irene Weiser, Rebecca Evans, Jeff Goodmark, Jon Jensen, Karim Beers, Ray Burger, Sara Hess, Peter Bardaglio

Ithaca 2030 District: Recent Developments – Peter Bardaglio
It's been awhile since the last update on the Ithaca 2030 District, so we took time this week to review the latest developments.

- The Ithaca 2030 District is flagship project of the Tompkins County Climate Protection Initiative (TCCPI)
- Builds on TCCPI model: provides non-competitive, collaborative environment built on trust and mutual respect
- What are 2030 Districts?
    - Goal: Improve energy and water performance of commercial and mixed-use buildings & reduce transportation emissions
    - Private-sector led – voluntary collaboration
    - Based in market realities, building business case for sustainability
    - Collect, benchmark, and analyze data to track progress
- Now 24 districts in U.S. and Canada – Ithaca is by far the smallest city in network
- Existing Building Targets
    - 50% reductions in energy use, water consumption, and transportation emissions by 2030
- New Building and Major Renovation Targets
    - Immediate 50% reductions in water consumption and transportation emissions, with energy use in the design year reaching carbon neutrality by 2030
- Why focus on buildings?
    - Built environment responsible for about 42% of annual global CO2 emissions
    - Of total emissions, building operations responsible for about 27% annually
    - Embodied carbon of just four building and infrastructure materials – cement, iron, steel, and aluminum – responsible for another 15%
- Ithaca 2030 District launched in 2016
- TCCPI's primary vehicle for engaging business community in effort to reduce GHG emissions
- Effort to build culture of benchmarking
- Members include building owners, community organizations, government agencies, and professionals

- Current advisory board members:
  - Terry Carroll, County Chief Sustainability Officer
  - Rebecca Evans, City of Ithaca Sustainability Director
  - Andrew Gil, HOLT Architects
  - John Guttridge, Urban Core, LLC
  - Susan Holland, Historic Ithaca Executive Director
  - Conrad Metcalfe, NYS-BPCA (ret.)
  - Guillermo Metz, CCETC Energy Team Leader
  - Jan Rhodes Norman, Local First Ithaca Co-Founder
  - Lou Vogel, Taitem Engineering Director of Engineering & Past President
- NYSERDA planning grant, 2015-16
  - Issued market analysis report, district strategy plan, and public outreach strategy
  - Developed financing guide, energy efficiency services guide, and small commercial toolkit
  - Conducted recruitment workshops on benefits of 2030 District and training sessions on Portfolio Manager
  - Created energy, water, and transportation baselines for 2030 District
  - Launched website at 2030districts.org/Ithaca
- Ongoing activities since 2016
  - Collect monthly energy and quarterly water data for property owners and upload them to Portfolio Manager
  - Build online building performance dashboard for each property owner to track progress
  - Carry out annual transportation surveys to track commuter carbon emissions
  - Hold quarterly meetings of District Partners and publish quarterly e-newsletter
  - Issue annual District progress reports
- Use Portfolio Manager to collect energy and water data and then upload to dashboard
- Baselines and performance metrics used to track District's progress are listed in the table below:

	ENERGY	WATER	TRANSPORTATION
Baseline Type	Regional Baseline	Local Baseline	Local Baseline
Baseline Source	2003 Commercial Building Energy Consumption Survey (CBECS)	2014-2016 Water Consumption Data Provided by the Ithaca Water and Sewer Division (IWSD)	2012 Ithaca Commuting Survey Results for City Workers, Data from the EPA and EIA
Baseline Considerations	Climate Zone, Space Type(s), Occupancy	Climate Zone, Space Type(s)	Location
Impact Metric	Annual Energy Use Intensity (EUI)	Annual Water Use Intensity (WUI)	Carbon Emissions per person per trip per year
Units	kBTUs/square foot	Gallons/square foot	kgCO2/person/trip/year
Data Tracking Method	NYSEG + Energy Star Portfolio Manager	IWSD + Energy Star Portfolio Manager	Annual Transportation Emission Survey

- Currently 31 commercial property owners, 46 buildings, and 604,624 sq ft of committed space vs. 25 property members, 29 buildings, and 375,371 sq ft at end of 2020
- For 2022 annual report, we focused on 30 property members, 41 buildings, and 532,097 sq ft
- Property type breakdown by square footage:
    - Office – 40.5%
    - Educational/Cultural – 16.5%
    - Retail – 14.6%
    - Mixed Use – 19.6%
    - Hotel/Inn – 2.7%
    - Other – 1.1%
- Current property members can be found at https://www.2030districts.org/ithaca/members
- District reduced its energy consumption by 27% from district baseline in 2022
- In addition, used 40% less water than baseline last year
- Slight improvement in commuter emissions – 16% reduction from 2021 and significantly below the 2019 emissions level
- 45% increase in committed square footage since end of 2021
- Energy update: 2022 District Baseline EUI, calculated as weighted mean of individual buildings' energy baselines was 104.76 kBTU/sq ft
- At district level, the aggregated EUI in 2021 was 76.51kBTU/sq ft
- Surpassed 2020 target and more than halfway toward the 2025 goal with three years to go – significant improvement over 2021 results
- 2022 District Baseline EUI, calculated as weighted mean of individual buildings' energy baselines: 104.76 kBTU/sq ft
    - At district level, the aggregated EUI in 2021: 76.51kBTU/sq ft
    - Surpassed 2020 target and more than halfway toward the 2025 goal with three years to go – significant improvement over 2021 results
    - 23 property members met or nearly met 2020 target of 20% reduction from their building baselines – of these 13 properties met 2030 target of 50%
- Energy results
    - Energy cost avoided: $211,000
    - CO_2e emissions avoided: 194,000 lbs.
    - Equivalent number of young trees planted: 15,114
- Water update: 2022 District Baseline WUI, calculated as weighted mean of individual buildings' water baselines: 22.33 gal/sq ft
    - At district level, aggregated WUI in 2022: 13.43 gal/sq ft – exceeded 2025 target – reduction of 40% from the baseline, well within striking distance of 2030 target of 11.16
    - 25 properties met 2020 target of 20% reduction from their building baselines – 22 of those properties met 2030 target
- Water results
    - Water cost avoided: $184,000
    - Gallons saved: 7.3 million
    - Equivalent number of showers saved: 423,000

- Transportation emissions benchmarked as annual emissions of carbon dioxide equivalent (CO2e) per commuter
- Baseline for District in 2022: 1501 kg CO2e/commuter/yr
- Actual in 2022: 1421 kg CO2e/commuter/yr, well above 2020 target but significant reduction from 1706 in 2021
- Before COVID, only 10% of respondents worked at home – with 2020 spring lockdown, proportion of remote workers jumped to 45%
- Even with reopening in second half of year, 32% of respondents continued to work remotely
- Taken as whole, in 2020 the District achieved 1172 kg CO2e/commuter/yr, below 2020 target of 1200 kg CO2e/commuter/yr
- Proportion of remote workers declined in 2021 to 28% -- percentage of commuters who drove alone jumped from 39% during 2020 lockdown to 51%
- These trends continued in 2022, with the percentage of remote workers dropping to 15% and the rate of commuters driving solo increasing to 58%
- Ithaca Green New Deal
    - City committed to achieving community-wide carbon neutrality by 2030
    - Latest GHG inventory: buildings make up estimated 58% of emissions in Ithaca – commercial sector contributes 38%
- Energy efficiency and electrification in built environment key to achieving carbon neutrality
- 2030 District's focus on improving performance of commercial buildings can clearly help accelerate reduction of community's carbon footprint
- We've made some significant progress, but we still have lot of work to do
- Irene Weiser shared some very kind remarks about the progress made by Ithaca 2030 District, noting that it's hardest work to do – dealing where rubber meets road
- Peter thanked Irene and observed that he couldn't do this work without brilliant undergraduates helping as interns – they aren't just number crunchers – they've embraced core values of enterprise
- Really proud of them – they've gone on, as they graduated, to some really interesting and important jobs in the field
- Like to think we're providing interns with a good base of experience that helps them move into their chosen professions
- But he felt that he benefits much more from them than they benefit from work they undertook – they've been exceptional, and have contributed so much to overall effort
- He also noted that there were building owners who were really progressive and made some good headway because of work they're committed to
- John Guttridge has been exceptional in providing leadership on how to take old buildings and decarbonize them: Ithaca Journal building, Press Bay Alley, Press Bay Court, and Watershed
- Also pointed to work of HOLT Architects in taking an old building and turning it into near net zero office; Taitem Engineering taking their old building and turning it into demonstration of how you can use off-the-shelf equipment that's readily available and dramatically reduce your carbon footprint; Purity Ice Cream is another good example – under leadership of former owner Bruce Lane they installed geothermal heat pumps, placed PV solar system on roof, and tightened up envelope of building

- Dawn Montanye: Agreed that transportation was the tough nut when it came to decarbonizing of city
- Pointed out the work of Cooperative Extension's Way2Go transportation education program – work closely with all transportation providers in community
- We have to be much more proactive and intentional about reducing drive alone rates, and gas-powered car miles driven
- Lots of solutions, including GoIthaca, to encourage use of more multi-modal transportation – many equity issues involved
- Peter suggested that Ithaca 2030 District could be effective conduit for getting educational materials and raising awareness about alternatives to driving with property members – told Dawn that the two of them should connect on this and work on making this happen

Micromobility in Ithaca – Jeff Goodmark
Jeff Goodmark, Director of Micromobility at the Community Center for Transportation, discussed the challenges and opportunities for micromobility in Ithaca, and how it can contribute to the city's decarbonization effort.
- What is micromobility? A big word for a small idea: small vehicles for small trips and large vehicles for large trips
- Need to open up transportation sector to multimodal options such as buses and bicycles
- Fundamental problem: too many cars – making all cars EVs doesn't solve problem
- Unbundling the car is the answer
- Sixty percent of trips in US are five miles or less – twenty-five percent of trips are between five and fifteen miles and fifteen percent of trips are more than fifteen miles
- Bikes and scooters for short trips, ride hailing for medium trips, and car sharing for long trips
- Shared micromobility includes shared-use fleets of bikes, e-bikes, and e-scooters
- Fleet of 150 e-bikes currently in Ithaca – best option given city's terrain
- Benefits of micromobility
  - Environmental benefits
  - Personal health/exercise benefits
  - Increased travel options
  - Reduction in traffic and time driving means fewer GHG emissions
- Ithaca Bikeshare provides new way to explore Ithaca – download app in app store
  - Pay as you go: $1.50 to unlock and $0.20/minute
  - Day pass: $20/day; unlimited trips up to 2 hrs, then $0.20/minute; no unlock fee
  - Annual: $150/year; unlimited trips up to 1 hour/day, then $0.20/minute after 1 hour; no unlock fee
  - All three options charge $1 convenience fee for parking out of hub
- Forty percent of users on annual plan – much higher than anticipated
- How it works
  - Register: Choose plan and sign up for Ithaca Bikeshare

- o Release: Tap scan and scan QR code on handlebar
- o Ride: Put on your helmet and enjoy ride
- o Park: Park correctly within service area – can check app for instructions
- o Over 100 parking hubs in city – locations on app
- o No charge if you park in one of hubs
- 56,500 trips so far in city of 32,100 people – that's 1.8 trips for every person who lives in city
- 13,000 rides in last six weeks – rides increase when college students return in mid-August – about 400 rides each day
- 500 new users in past two weeks and 2000 new users since July 1 – currently 7200 registered users – average of 7 trips per user
- Estimate that college students make up 60 percent of trips on peak day
- Ithaca Bikeshare can help city achieve its goal of 50 percent reduction in transportation emissions by 2025
- NREL found at peak adoption shared micromobility could save 2.3 billion gallons of gasoline annually in US
- In 2022 share micromobility offset 74 million pounds of CO_2 emissions by replacing auto trips
- 37 percent of shared micromobility trips replaces one car trip – save 16,000 car trips in Ithaca since November 2022
- Micromobility replaces walking more than anything – can save valuable time
- Between 6 and 10 percent of people who use micromobility are taking new trips – would have done nothing at all if micromobility not option
- Global e-bike market projected to climb at compound annual growth rate of just under 10 percent between 2021 and 2028, reaching $48.5 billion
- People in US equate bike riding with exercise, but outside US people equate it with transportation
- Number of e-bikes in US have increased by 71 percent since 20 21 and number of e-scooters grew by 28 percent
- E-bikes ridden about 56 percent more than regular pedal bikes in systems that have both
- Since launch of Ithaca Bikeshare in November 2022 traveled over 76,300 miles in Ithaca – average of 12 minutes per trip with average of 1.65 miles per trip – 92 percent of trips rated four stars or higher
- 25 percent of people use Ithaca Bikeshare for work or school, 33 percent for social activities such as entertainment or dining out, 15 percent for shopping, errands, and appointments, 27 percent for exercise and recreation
- Ithaca Bikeshare bikes are Class 1 pedal-assist bikes – no assistance without pedaling – same rules and access rights as regular bikes – reach 16-17 mph

Q&A

- Leon Porter: Are e-bike riders required to wear helmets?
- Jeff: NYS law requires riders under 14 years old must wear helmets – optional for riders over 14 – Ithaca Bikeshare riders have to be 16 or older
- Helmets available for free at Ithaca Bikeshare office during regular business hours – have also donated hundreds of helmets to Ithaca High School, where there is a helmet library
- Peter asked to comment on how Amsterdam became the gold standard for micromobility
- Jeff: Amsterdam completely different city in 1970s – then in early 1980s they decided they wanted cars off a lot of their streets – very controversial at time
- Forty years later it is one of best bikeable cities in world
- Similar things happening now in Paris, Washington, DC, and NYC
- Every time this happens, everybody benefits from it – businesses, traffic, public health
- Holly Hutchinson (chat): What are chances of getting these kinds of infrastructure changes in Ithaca?
- Jeff: It's happening but very slowly – Bikewalk Tompkins is advocating for changes in different parts of city – clearly needs a lot of work: bike lanes, barriers, bike signage, etc.
- The more people who ride bikes, the more we can build demand for these changes
- Jeff also pointed out that Common Council has passed legislation lowering speed limit in city to 25 mph – only thing holding this change up is bottleneck with getting new signs made
- More we can bring speed of cars down and speed of bikes up to where they're roughly the same, the safer it will be for everyone
- Chris Skawski: With development of longer trails in and around city, what plans are there for expanding service area of Ithaca Bikeshare and are there any plans for installing e-bike chargers?
- Jeff: Essentially no limit to our service area – already have people who read to Newfield, Varna, Trumansburg, airport, etc.
- Our financial model requires that we raise 50% of our funding outside of rider revenue – would love to secure support from Town of Ithaca and Cayuga Heights, Varna, and Trumansburg, among others – increasing our service area would require support from these municipalities outside city
- Madison, WI is installing e-chargers around city – Cornell has approached Jeff about finding ways to charge bikes outside – Cornell concerned about students who are buying e-bikes and charging them in dorm rooms
- Big problem is different kinds of e-bikes have different kinds of chargers – no single standard

- Better solution would be to have Ithaca Bikeshare provide service to entire campus and discourage students and others from bringing their own e-bikes to campus
- Rebecca Evans: How much would Ithaca Bikeshare need to cover other 50% of its budget outside of rider revenue?
- Jeff: Budget for next year is $465,000 – project about $260,000 in rider revenue – NYSEG, title sponsor, kicks in $150,000 so there's $75,000-80,000 gap – hoping City of Ithaca can make up some of this gap in funding – does not include any capacity for capital expansion
- NYSERDA grant makes it possible to purchase another 100 bikes – by end off 2024 we'll need another batch of bikes – each batch costs $500,000 – important to keep refreshing fleet given how hard they're used and how many miles are put on them
- Rebecca: Does NYSEG have exclusive rights to sponsorship or is there room for other potential sponsors?
- Jeff: Other sponsorship levels besides "title sponsorship" – Jeff will send Rebecca info
- Guillermo Metz: What other options are there with onset of colder weather? Also there's equity issue because lots of people can't ride bikes
- Jeff: Many different alternatives to needed to make transportation work – micromobility clearly doesn't work for everyone – but more people who do use micromobility, the less pressure there is on traffic and parking
- Biking not great in winter, but somehow last February there were 4,400 trips in Ithaca
- Guillermo: Could you talk about other options that are being explored?
- Jeff: Electric transit authority grant from NYSERDA bringing together TCAT and Center for Community Transportation to explore possibility of on demand van and car service for communities that have fewer transportation options such as Southside and West Hill
- Jon Jensen (chat): Does Ithaca Bikeshare cut into TCAT ridership?
- Jeff: It might potentially, but also has potential to enhance bus stops – lot of Bikeshare rides begin and end at bus stops – lot of our hubs are at bus stops
- Also getting requests from riders to put more bikes in areas where TCAT has shut down routes
- Peter: As e-bikes get more widely adopted and production gets scaled up, is it possible that unit costs will come down?
- Jeff: Probably will happen when there's more consolidation in sector and move towards adopting single standard – prices aren't going to come down as long as we're in current stage of hypergrowth and innovation