

Connecting Electric Vehicle Charging and Multi-Family Housing

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Presentation Outline

- 1) Multi-family housing EV charging installation tool framework
 - Third party owned chargers
 - Residents/tenants
 - Building managers and housing authorities
- 2) NYCHA meeting update
 - Feedback on the framework
 - Challenges they are facing with installing EV chargers
 - Their current priorities
- 3) Make-Ready program midpoint review
 - Introduction to the Make Ready program
 - Conclusion of the white paper
- 4) Third party requirements
 - Installation requirements and guidelines
- 5) Recommendations for future implementation



Source: Untapped New York, Michelle Young, 2021

Multi-family Housing EV Charging Installation Tool

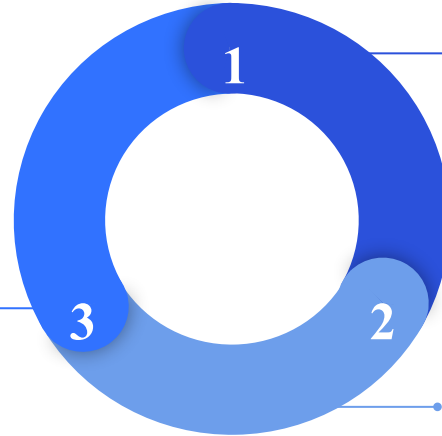
Background

Tool users

Multi-family housing (MFH) tenants / residents

MFH owner / managers / housing authority

Main goal



Provide guidance and support for property owners, managers, and other stakeholders who are interested in installing electric vehicle (EV) charging stations in multi-family housing developments.

Promote the adoption of EVs and support the transition to a more sustainable transportation system by expanding access to charging infrastructure in multi-family housing developments.

It provides users with a step-by-step process for evaluating these factors and developing a plan for EV charging installation that meets their specific needs and circumstances

Multi-family Housing EV Charging Installation Tool

Assumptions and background information

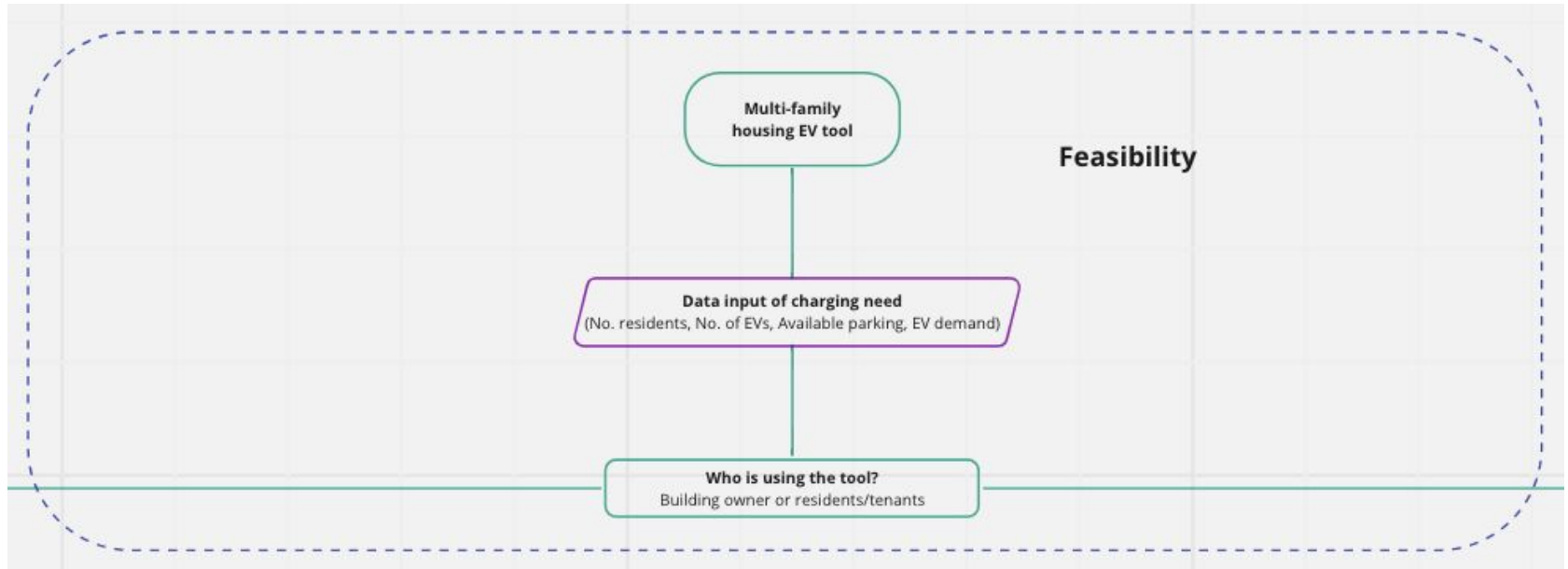
Users live in / own multi-family housing

Users want to install EV charging infrastructure

Information / resources are provided in every step

The tool does not make decisions for you, it provides resources

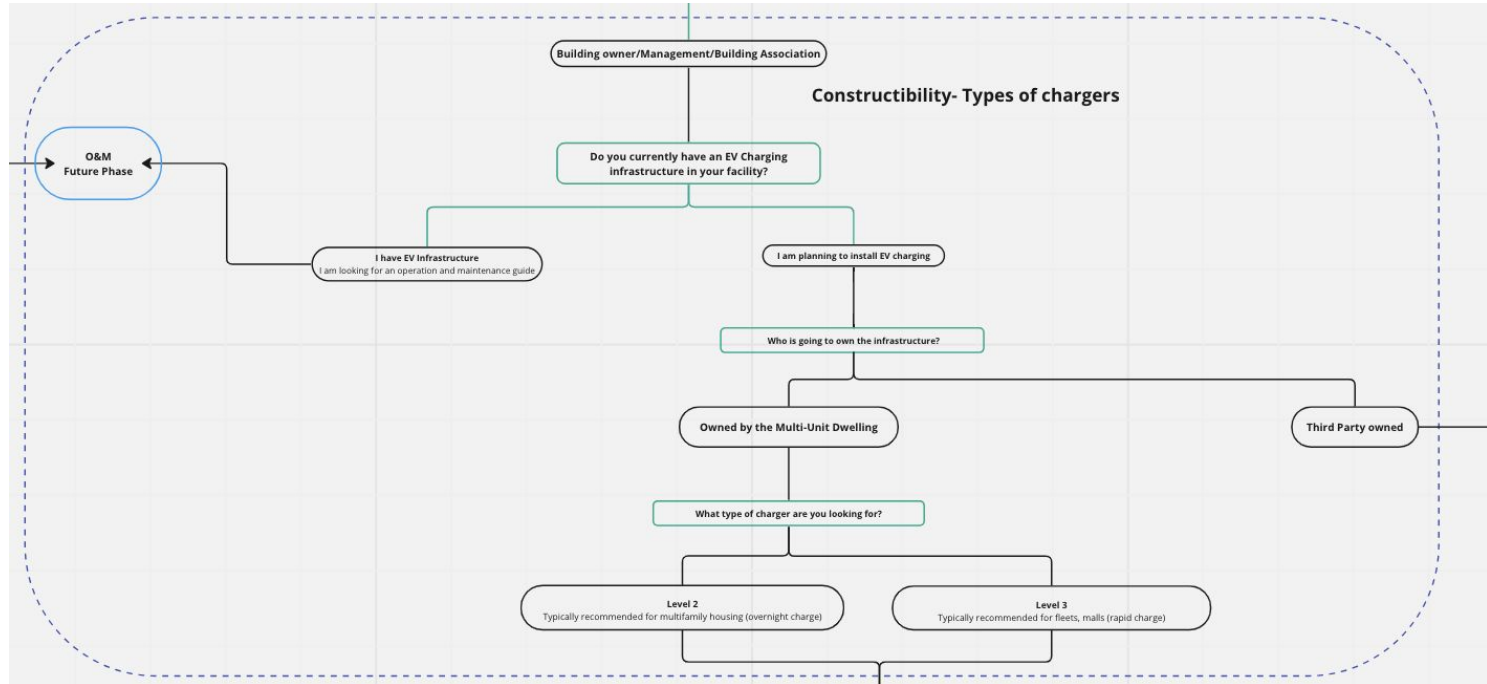
Flowchart



Legend:

- Black border = decision-making points**
- Green border = question**
- Purple border = data input**
- Pink border = resources**
- Blue border = future O&M phase**

Flowchart

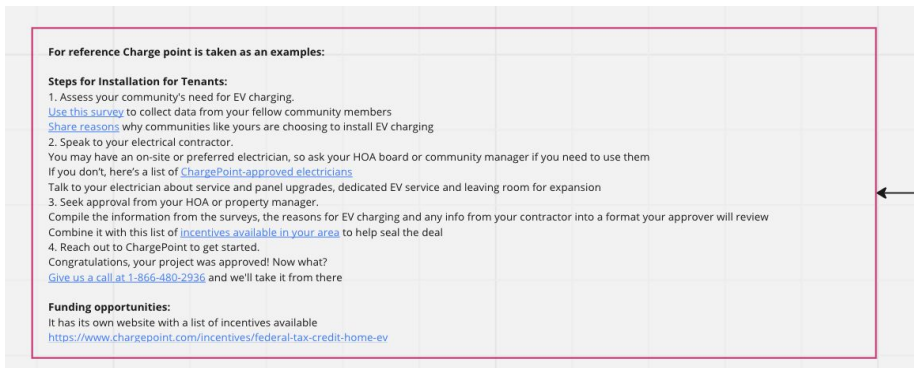
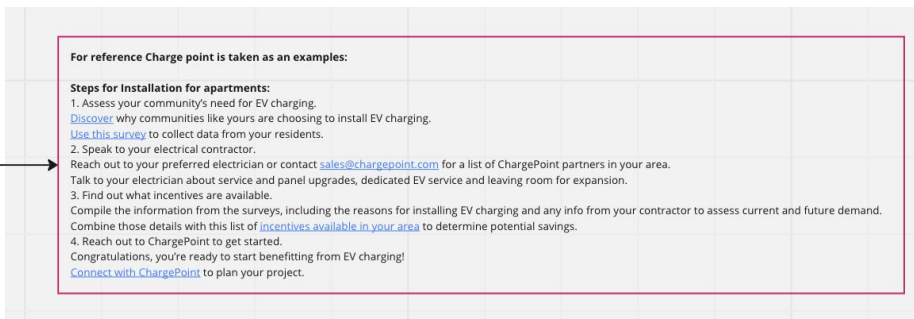


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Flowchart

Building Owners/
Management/HOA



Tenant/Renter

Legend:

Black border = decision-making points

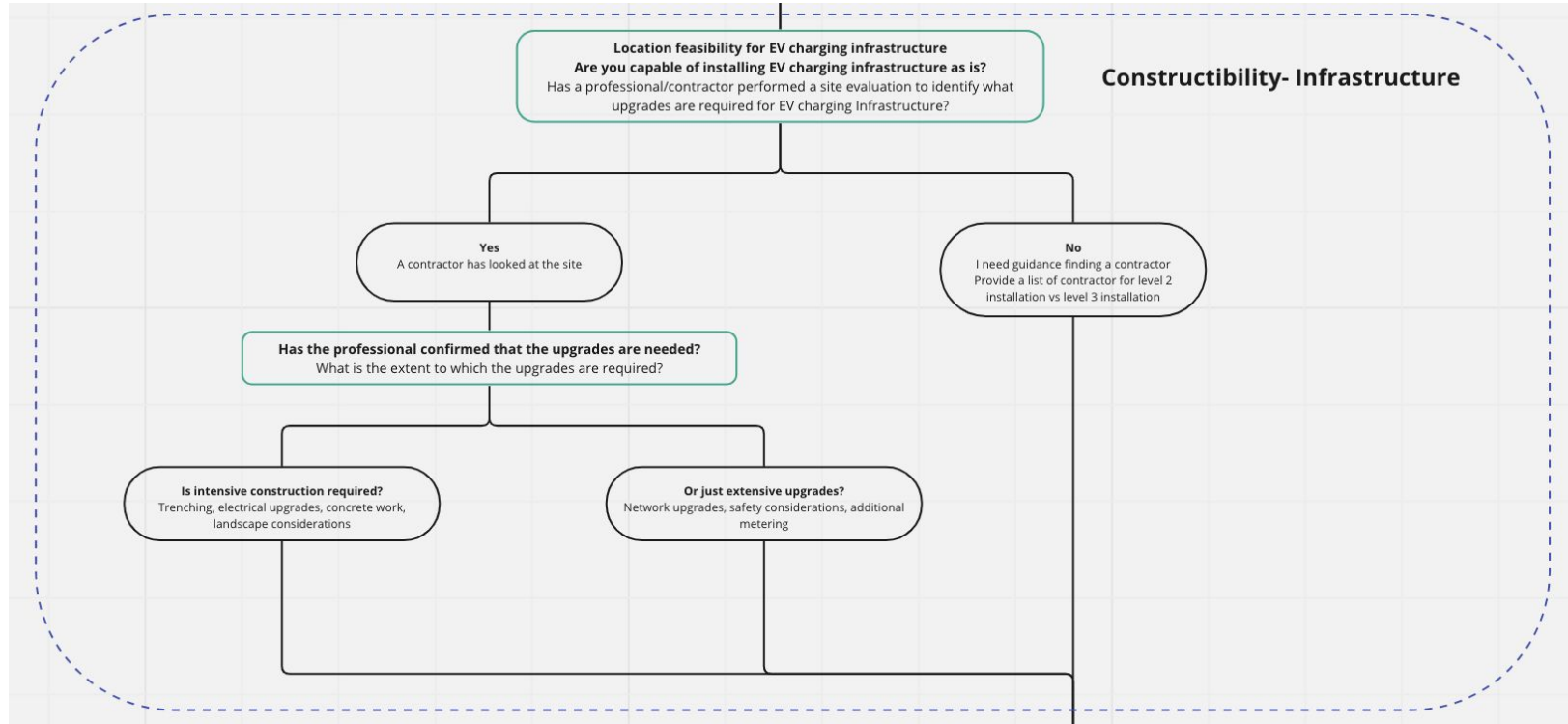
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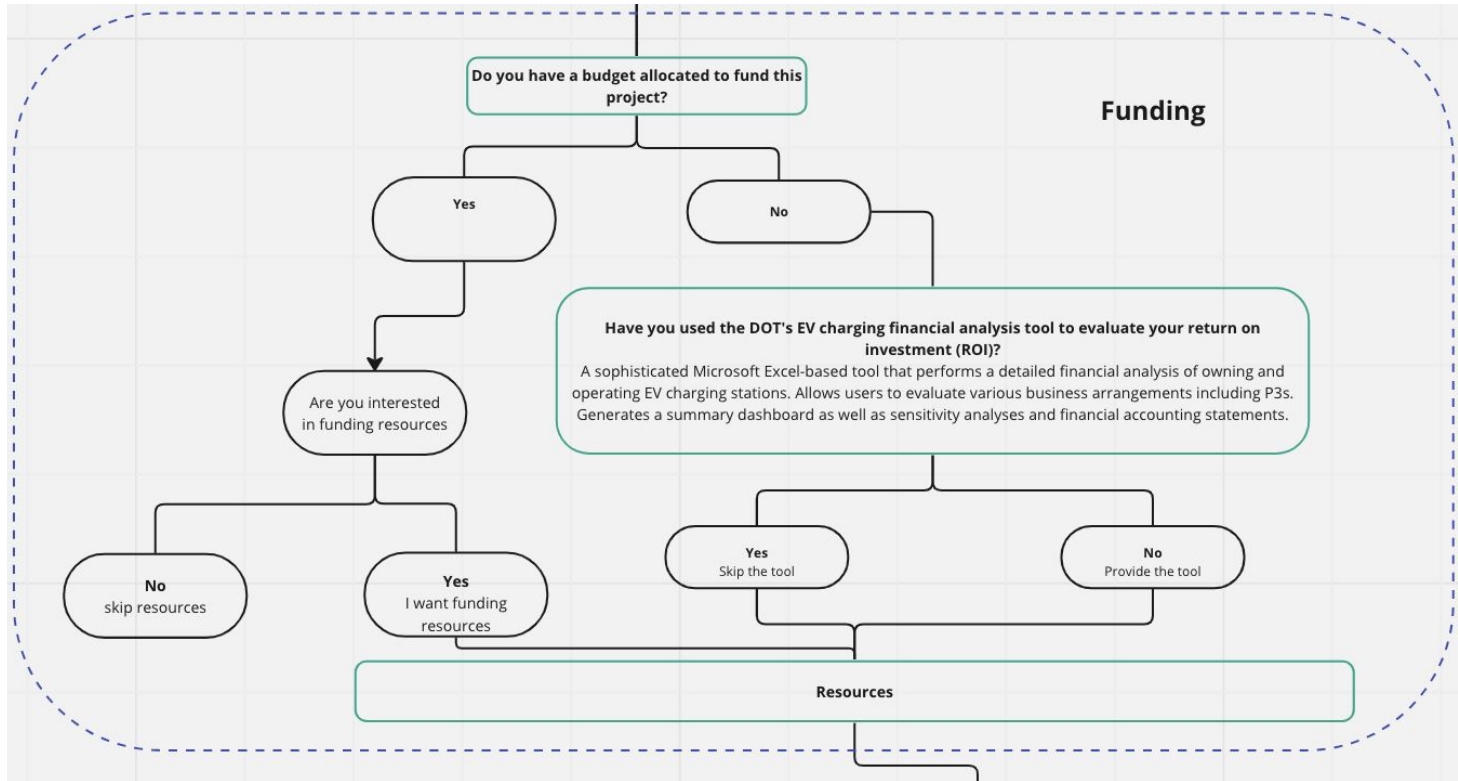
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Flowchart



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Flowchart



List of the resources available for funding the EV charging infrastructure:

Local

1. **New York City Department of Transportation:** The NYC DOT offers a variety of incentives for installing EV charging infrastructure, including rebates, grants, and tax credits. For example, the NYC DOT offers a \$1,000 rebate for the installation of each Level 2 charging station. To be eligible for a rebate, you must be a landlord of a multi-family housing property in NYC.
2. **New York City Department of Housing Preservation and Development:** The NYC HPD offers a variety of programs that provide financial assistance to low-income residents who want to purchase an EV. For example, the NYC HPD offers a \$2,500 grant for the purchase of an EV. To be eligible for a grant, you must be a low-income resident of NYC who is purchasing an EV.
3. **New York City Council:** The NYC Council has approved a number of initiatives to promote the use of EVs in NYC, including the installation of EV charging infrastructure. For example, the NYC Council has approved a bill that requires all new buildings in NYC to have EV charging infrastructure. To be eligible for funding from the NYC Council, you must be a landlord of a multi-family housing property in NYC.

*The eligibility requirements for funding opportunities from the NYC DOT, NYC HPD, and NYC Council vary depending on the specific program. However, in general, you must be a landlord of a multi-family housing property in NYC to be eligible for funding.

State:

1. **The New York State Energy Research and Development Authority (NYSERDA)** offers a variety of funding opportunities for installing EV charging infrastructure, including rebates, grants, and tax credits. For example, NYSERDA offers a \$2,500 rebate for the installation of each Level 2 charging station. To be eligible for a rebate, you must be a resident of New York and you must install EV charging equipment that meets NYSERDA's requirements.
2. **Grants:** Many states offer grants for installing EV charging infrastructure. For example, the state of New York offers grants of up to \$25,000 for the installation of EV charging equipment. To be eligible for a grant, you must be a business or organization that is located in the state.

Federal:

1. **Internal Revenue Service:** The Internal Revenue Service (IRS) offers a variety of tax credits for businesses and individuals who install EV charging infrastructure. For example, the IRS offers a tax credit of 30% of the cost of installing EV charging equipment.

Private EV charging companies:

1. **ChargePoint:** ChargePoint offers a variety of financing options for businesses and organizations that want to install EV charging infrastructure. For example, ChargePoint offers a lease-to-own option that allows businesses to install EV charging equipment without having to make a large upfront investment.
2. **Tesla:** Tesla offers a variety of financing options for businesses and organizations that want to install EV charging infrastructure. For example, Tesla offers a lease-to-own option that allows businesses to install EV charging equipment without having to make a large upfront investment.
3. **EVgo:** EVgo offers a variety of financing options for businesses and organizations that want to install EV charging infrastructure. For example, EVgo offers a lease-to-own option that allows businesses to install EV charging equipment without having to make a large upfront investment.

!! Disclaimer for Education purpose only



- Craig Cipriano, National Director of Zero Emissions Mobility
- Lauren Alger, Sustainability Manager

- Siobhan Watson, Deputy Director of Sustainability Programs
- Edwin Mendez, Acting Deputy Director of Energy and Sustainability Programs

Meeting with NYCHA

Tuesday, April 4, 2023

NYCHA's Green Fleet Plan

1	NYCHA is transitioning its vehicles used for resident and staff services to electric
2	Charging stations have been installed at NYCHA offices and garages in Long Island City where many fleet vehicles are kept
3	NYCHA is considering providing EV charging for residents, but currently, there is limited demand for this service
4	NYCHA anticipates that the cost of EVs will decrease and the availability of second-hand EVs will increase in the future, potentially leading to increased demand from NYCHA residents

NYCHA Charging Station Study

The challenge of high costs

- NYCHA conducted a study funded by ConEd that explored the costs of installing banks of chargers at a few developments
- The need to upgrade electrical capacity and trenching made the overall costs too high for NYCHA to proceed with the installation of additional charging stations.

ConEd incentives

- NYCHA also investigated incentives administered by ConEd, such as the Make Ready program
- While the incentives covered a small portion of the costs, they were not enough to make the installation of additional charging stations feasible
- NYCHA decided not to proceed with the installation of additional charging stations at this time

Challenges in Grants Application



Lack of grant writers on staff



Unable to put together proposals consistently



Limited resources for grant writing and management due to staff constraints

Challenges in Implementing EV Infrastructure at NYCHA

- Funding
- Electrical upgrades
- Costly installations to upgrade panel capacity

Constructability

1

Despite funding being a major challenge for NYCHA, programs such as the Infrastructure Building and Inflation Reduction Act could potentially provide funding opportunities

2

Installing solar carports with car chargers above the parking space is a potential solution for increasing EV charging

3

Solar carports could be installed in parking spaces to provide EV charging without the need for expensive interconnection construction

4

By utilizing solar power, the cost of providing EV charging could be reduced in the long run

5

Solar carports can also help NYCHA move towards a more sustainable future by utilizing renewable energy sources

NYCHA's Exploration of Alternative Funding and Partnership Options



NYCHA is exploring solar roof leasing and micro-mobility solutions as potential options for sustainable energy and transportation



Solar roof leasing involves a third party leasing the roof from NYCHA, installing the system, collecting revenue/credits, and owning/operating the system



NYCHA is also partnering with ConEd to request proposals from vendors for infrastructure installation and maintenance



The goal is for the vendor to own some infrastructure, generate revenue, and pay NYCHA a portion of that revenue



These alternative funding and partnership options may provide new opportunities for NYCHA to implement sustainable solutions

NYCHA's Micromobility Solutions

→ NYCHA is working on micro-mobility solutions and has received high demand from residents

→ EV-related fires are a significant issue, and there is nowhere safe and legal to store the EV bikes

→ NYCHA is conducting a pilot with ConED to install outdoor charging installations at three different development locations

Make-Ready Program

LIGHT-DUTY MAKE-READY PROGRAM

Main goal

Support the development of electric infrastructure and equipment necessary to accommodate an increased deployment of EVs within New York State

Program at a glance

- Deploying 850,000 electric vehicles across the state by 2025
- Total budget of \$701 million
- \$206 million must directly benefit disadvantaged communities
- Program commenced on August 30th 2022
- Midpoint Review Whitepaper released on March 1st 2023

How to participate

STEP
1

Information and Application

Potential program participant reviews program information and finds an Approved Contractor.

STEP
2

Site Design

Program participant works with Approved Contractor and their utility on charger selection and site design.

STEP
3

Application Review

Participant or Contractor submits application and the utility reviews eligibility and site information, assessing costs and feasibility.

STEP
4

Construction

The utility and Approved Contractor build “make-ready” infrastructure to parking space.

STEP
5

Activation

Chargers are installed and activated. Customer provides documentation and reports operational data. The utility provides payment to the customer.

Source: Joint Utilities of NY, 2020

Make-Ready Program Midpoint Review

LIGHT-DUTY MAKE-READY PROGRAM

Multi-Unit Dwelling

- Multi-unit dwellings (MUDs) were not considered in the initial Make-Ready Order plug targets or budget
- MUDs can now participate at the 50% incentive tier
- ChargePoint argues that a 50% funding level is inadequate
- Some disagree and recommend not redirecting unused funding to MUDs because the need for public charging has not been met

- Although staff recommends a budget increase to account for the need for L2 MUD plugs, it is staff's opinion that no changes to the MUD and workplace incentive tiers are required
- However, staff recommends that there be a mechanism to re-examine make-ready incentives due to changes in local laws, codes or regulations that imposes or updates make-ready requirements on buildings

Make-Ready Program Midpoint Review

LIGHT-DUTY MAKE-READY PROGRAM

Disadvantaged Communities

Make Ready Order

- 20% of the Make-Ready budget allocated
- Additional programs benefitting DACs include the Clean Transportation Prizes, MHD Pilot and fleet assessment services

Midpoint Review Recommendation

- Staff proposed to increase DAC funding to 35%
- Supplemental budget: micromobility programs (\$25M) and medium and heavy duty Make Ready pilot program (\$30M)

Source: Department of Public Service, EV Make-Ready Midpoint Review, 2023

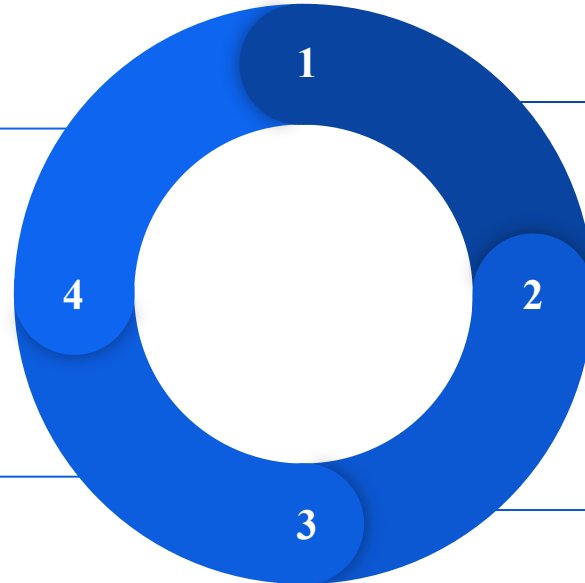
Make-Ready Program Midpoint Review

LIGHT-DUTY MAKE-READY PROGRAM

Disadvantaged Communities: Micromobility

Multiple stakeholders, including representatives from the NYCHA and PUSH Buffalo, expressed support for incentivizing make-ready infrastructure for micromobility charging

Funding for alternative transportation such as micromobility charging



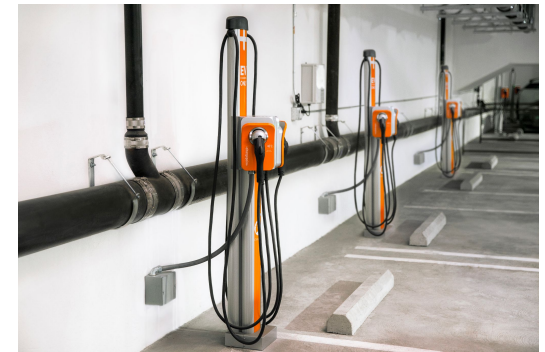
Micromobility refers to lightweight and low-speed devices, including electric bikes, electric scooters, and electric skateboards

NYCHA commented that micromobility device ownership is more prevalent among DAC residents than higher cost electric vehicles

Third Party

ChargePoint

- EV Charging Solutions:
 - Level 2 AC Chargers - *Business, Fleets and Public Spaces*
 - DC Fast Chargers - *Highway, Major Transportation Routes*
 - Home chargers - *Personal Use, Home Garage or Driveway*
- Management & Operation
 - ChargePoint Charging Network Software - Set pricing and monitor usage
 - Mobile App for Car Owner - Locate charging station, track charging session and pay for charging services
- Partnership
 - Commercial Real Estate Firms, Hotels, Municipalities and Utilities



Source: ChargePoint, EV Charging Service, 2023

Third Party

EVBox

- EV Charging Solutions:
 - Level 2 AC Chargers; DC Fast Chargers; Home chargers
- Installation Services
 - Site Evaluation and Planning
- Advanced Features
 - Smart Charging, Load Balancing and Real-Time Monitoring
- Management & Operation
 - Offer Cloud-Based Platform

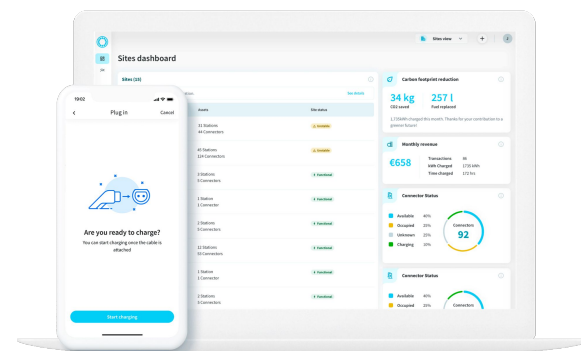


EVBOX



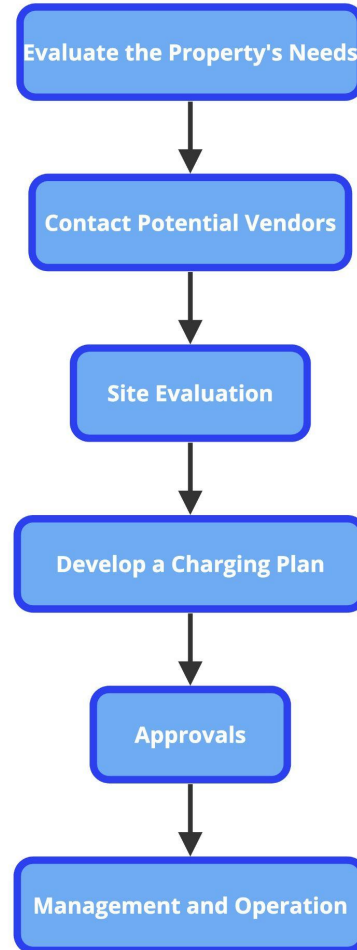
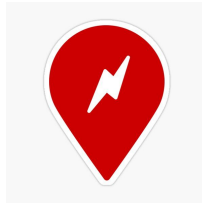
Chargemap

EVBOX



Source: EVBox, EV Charging Solution, 2023

Third Party Workflow



Recommendations for Future Implementation

Interactive Tool

- Developing the tool using the workflow
- Incorporating micromobility in the tool
- Third party charging service
- Incorporating the operation and maintenance

Interview and Survey

- Interview managers for the properties and owners of multi-family housing

Implementation

- Compile and add the resources in the tool
- Figure out the huge gap in incentivizing people about EV

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9. *Ev make-ready program*. (n.d.). Retrieved April 11, 2023, from <https://jointutilitiesofny.org/ev/make-ready>

Appendix 1: Inflation Reduction Act

Inflation Reduction Act

- President Biden signed the IRA into law; August 2022
- **\$739 Billion**
- Objective: It lessens the effect of inflation by cutting Americans' energy and health-care costs and reducing the government deficit over the following ten years.
- The investments will have a sizable impact on climate and EV accessibility over the next decade.

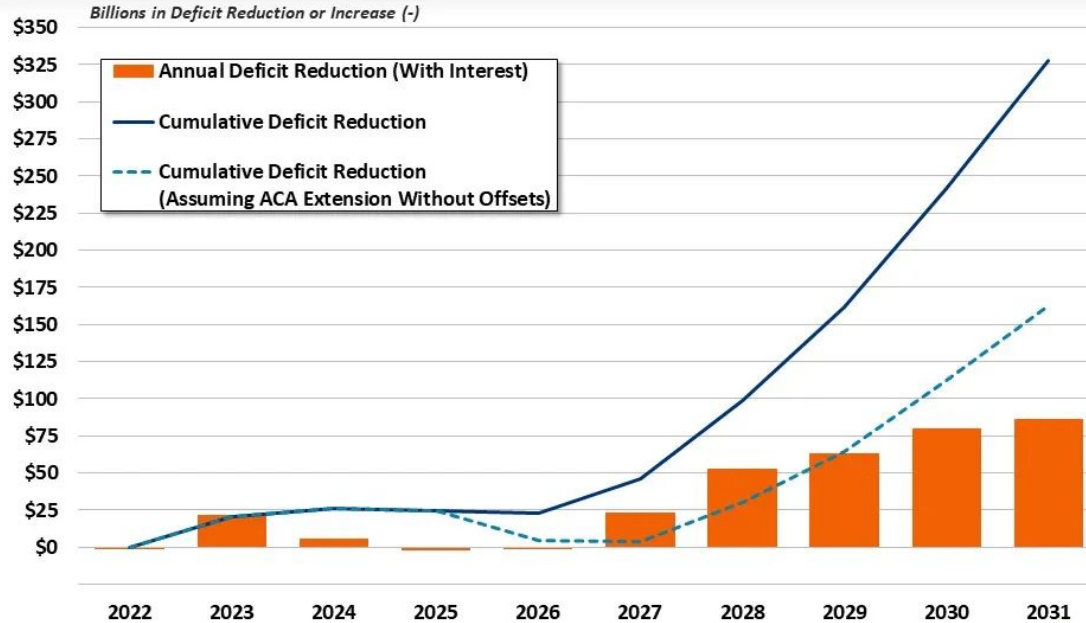


Department of the Treasury
Internal Revenue Service

Source: IRS, 2022

Inflation Reduction Act

Fiscal Impact of Inflation Reduction Act of 2022



Sources: Congressional Budget Office and Committee for a Responsible Federal Budget.



Source: What's In the Inflation Reduction Act? Jul 2022

What does the IRA mean for the climate and EVs?

- IRA is most ambitious in its climate initiatives
- “The Inflation Reduction Act (IRA) is the biggest climate investment in U.S. history,” says James Ellis, director of energy and utilities at EV Connect.
- \$370 billion in climate and clean-energy investments
- Put the U.S. on a path to roughly 40% emissions reduction by 2030



Source: EV connect, Impact of IRA on EV charging, Nov 2022

Source: EV connect, Impact of IRA on EV charging, Nov 2022

IRA: EVs and climate related investments

1	Clean manufacturing investments	<ul style="list-style-type: none">• The IRA invests \$60 billion in clean manufacturing jobs
2	Extended and expected EV tax credits	<ul style="list-style-type: none">• The Clean Vehicle Credit of up to \$7,500 on qualifying clean vehicles• Consumers can again take advantage of the credit on manufacturers, such as Tesla and GM
3	Used EV tax credit	<ul style="list-style-type: none">• Consumers can now get tax credits for up to \$4,000 or 30% of the cost of a used EV that's at least two years old and not purchased for resale
4	Point-of-sale credits	<ul style="list-style-type: none">• These tax credits are now accessible at the point of purchase, meaning you don't have to wait until tax time to get the money back.
5	Extended and expected EV tax credits for EV chargers	<ul style="list-style-type: none">• Law also restores expired tax credits for installing EV chargers in homes and businesses• This credit is good for up to 30% of the costs of EV charging equipment.

Source: EV connect, Impact of IRA on EV charging, Nov 2022

Rules for claiming EV tax credit



Tax credit is 30% of the cost of hardware and installation for home EV charging station installations,



MSRP for vans, pickup vehicles, and SUVs should be less than \$80,000



MSRP for clean cars should be less than \$55,000



Maximum tax credit per property item is \$100,000. (If the installation project is complete after 2022)



EV tax credit income limit for married couples filing jointly is \$300,000.

Source: Reduction Act, I. (2022) Inflation reduction act statement, The Solutions Project. (Accessed: February 1, 2023)

Rules for claiming EV tax credit



Image Source: (2023) *How long do encrypted-tbn0.gstatic.com images take to be removed?*, (Accessed: February 1, 2023).



Single person with a modified adjusted gross income of more than \$150,000, will not be eligible for the EV tax credit.



Head of household earning more than \$225,000 will be ineligible to claim the electric vehicle tax credit.



EV tax credit as a discount at the time of purchase beginning in 2024.

Source: Reduction Act, I. (2022) Inflation reduction act statement, The Solutions Project. (Accessed: February 1, 2023)

Ways the IRA Will Affect EV Charging

Drive EV Production and Ownership

By extending the tax credit, reopening it to include previously capped manufacturers, and extending it to include used clean vehicles

These credits can be taken at the point of sale, rather than only at tax time

These investments are specifically targeted toward middle-class Americans

Ways the IRA Will Affect EV Charging

Expand Charging Station Access

- Reviving the 30% credit for installing EV chargers and related equipment, such as solar panels to power charging, reflects a major investment in charging infrastructure.
- For businesses, in particular, the potential of gaining up to \$100,000 per item in charging equipment credits.
- The credits only apply to installations in nonurban areas or communities that meet certain limits for average income.

Stabilize the U.S. EV Market

- Aims to stabilize the country's EV market by tying more of its production to the U.S. and its global allies.
- Tax credits for EV purchases only apply to vehicles assembled in North America.
- It's designed to incentivize new production goals for U.S. automakers.
- The law also includes additional money for manufacturers that reach certain targets for materials sourcing.

Source: EV connect, Impact of IRA on EV charging, Nov 2022

References

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3. EV Connect. "The Impact of Inflation on EV Charging." *EV Connect*, EV Connect, 28 Nov. 2022, www.evconnect.com/blog/the-impact-of-inflation-on-ev-charging.
4. "What's in the Inflation Reduction Act?" *Committee for a Responsible Federal Budget*. 28 July 2022. Web. 1 Feb. 2023.

Appendix 2: Introduction to multi-family housing EV charging installation tool

Multi-family housing EV charging installation tool

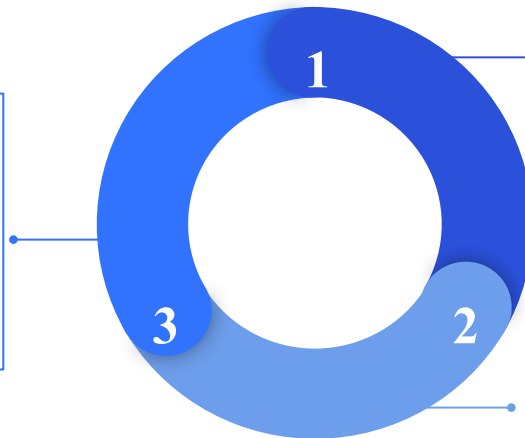
Tool users

Multi-family housing (MFH) tenants / residents

MFH owner / managers / housing authority

Promote the adoption of EVs and support the transition to a more sustainable transportation system by expanding access to charging infrastructure in multi-family housing developments.

Main goal



Provide guidance and support for property owners, managers, and other stakeholders who are interested in installing electric vehicle (EV) charging stations in multi-family housing developments.

It provides users with a step-by-step process for evaluating these factors and developing a plan for EV charging installation that meets their specific needs and circumstances

Multi-family housing EV charging installation tool

Assumptions

Users live in / own multi-family housing

Users want to install EV charging infrastructure

Information / resources are provided in every step

3rd party ownership will not be considered in the decision tree

The tool does not make decisions for you, it provides resources

Sharing Parking Program

Parking Panda

- In April 2017, SpotHero acquired Parking Panda.

SpotHero

- The app offers real-time availability, flexible pricing, and a range of payment options.

ParqPex

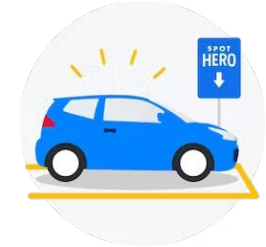
- This is another online platform that connects parking spot owners with renters.

Curbflip

- This is an online marketplace that allows multi-family housing residents to rent out their parking spaces to others.

Zumper

- This is a rental listing platform that offers a parking sharing program for multi-family housing residents.



Shared parking resources

NYC DOT Carshare



Image Source: NYC. gov

- ➔ Carsharing provides on-demand access to a vehicle for short-term use, usually by the hour or day.
- ➔ The NYC DOT's Carshare program designates dedicated parking spaces for eligible carshare organizations (CSOs) in New York City.
- ➔ These parking spaces are located at curbside locations and in municipal parking facilities throughout the city.

Shared parking resources

EVmatch

- Peer-to-peer EV charging network connecting drivers with private charging stations
- Provides access to over 50 charging stations in NYC



ParkFast

- Partnership between Icon Parking Systems and EVgo
- Offers EV charging at several locations throughout the city



ChargePoint

- National network of EV charging stations
- Over 114,000 charging spots in the US
- Has charging stations in public locations such as parking garages and on-street parking spots



Next steps



Revise the tool based on the feedback



Focus on utility providers, installation, O&M



Incorporate shared multi-modal transportation idea



Possibility of a meeting with NYCHA

References

1. EV Connect. "The Impact of Inflation on EV Charging." *EV Connect*, EV Connect, 28 Nov. 2022, www.evconnect.com/blog/the-impact-of-inflation-on-ev-charging.
2. "What's in the Inflation Reduction Act?" *Committee for a Responsible Federal Budget*. 28 July 2022. Web. 1 Feb. 2023.
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Appendix 3: Meeting with NYCHA

Connecting Electric Vehicle Charging and Multi-Family Housing

Aashini Patel, Fumin Chen, Shivani Patel, Sruta Gunuganti

Meeting with NYCHA
Tuesday, April 4, 2023



Meeting Outline

- 1) Introduction to the research
 - Importance of the topic
 - Relevance to NYCHA
- 2) Progress of the research
 - Guidelines framework
 - Multi-family EV charging installation tool flowchart
- 3) Q&A



Image of a level 2 charger in NYC
Source: Untapped New York, Michelle Young, 2021

Introduction

Importance

- New York has set a goal of zero-emissions vehicles for all new passenger cars and trucks sold in the state by 2035
- NYC is one of the most densely populated cities in the world with high concentration of multi-family housing, including apartment buildings and co-ops. Installing EV charging stations in these buildings can help make EV ownership more accessible to a larger portion of the population
- Help streamline the process of installation for building managers and tenants

Research

Guidelines for installation of EV charging stations in multi-family housing

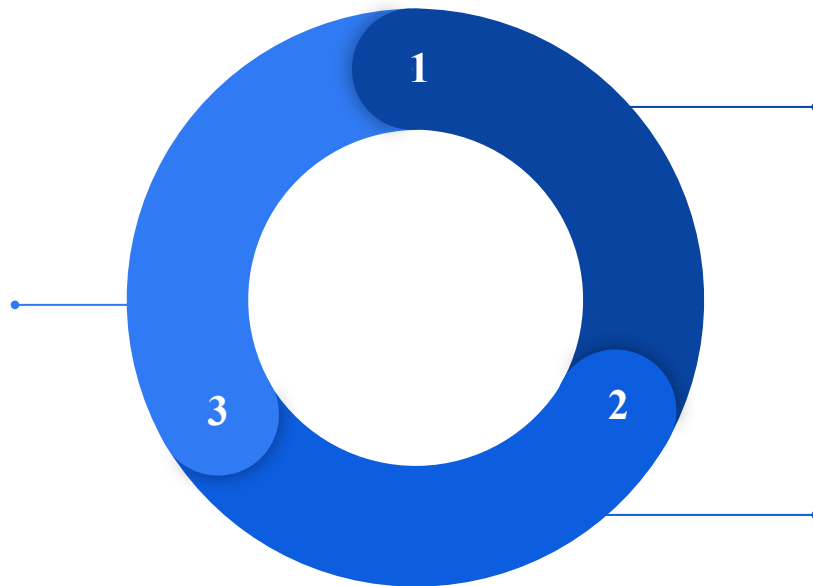
Develop a flowchart for a web-based interactive tool

Introduction

Relevance to NYCHA

Largest public housing authority in North America, providing affordable housing to more than 400,000 low-income New Yorkers

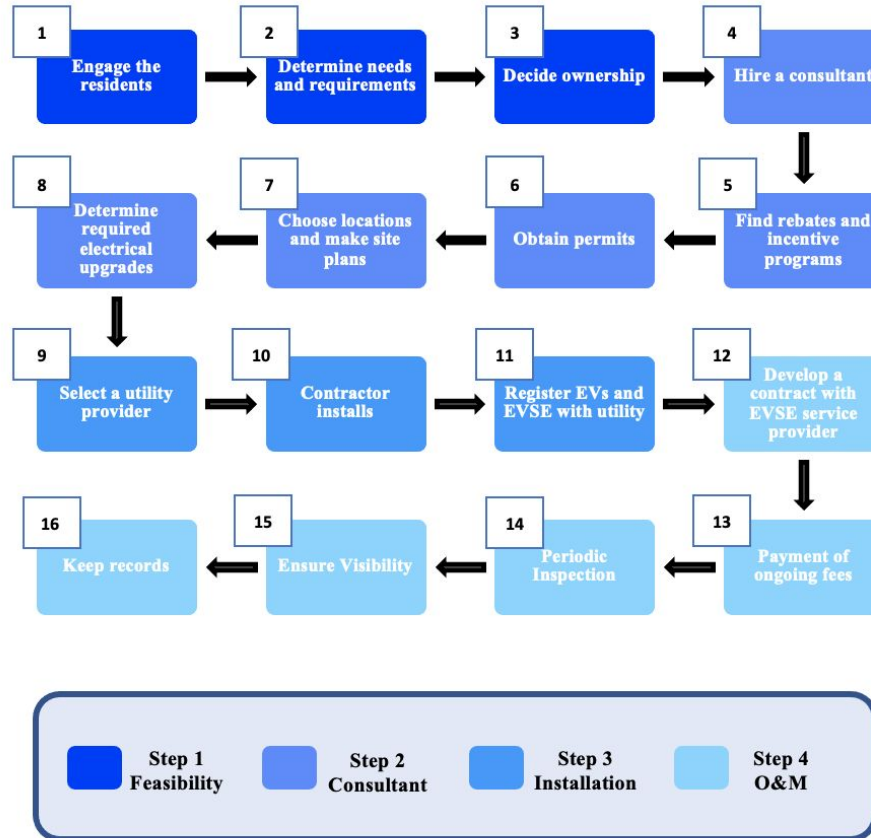
By installing EV charging infrastructure in NYCHA buildings, the authority can encourage residents to use electric vehicles



Play an important role in promoting sustainability and lowering greenhouse gas emissions in NYC

Low-income communities often face barriers to EV adoption, including lack of access to charging infrastructure, limited awareness of EV benefits, and affordability concerns

Guidelines Framework



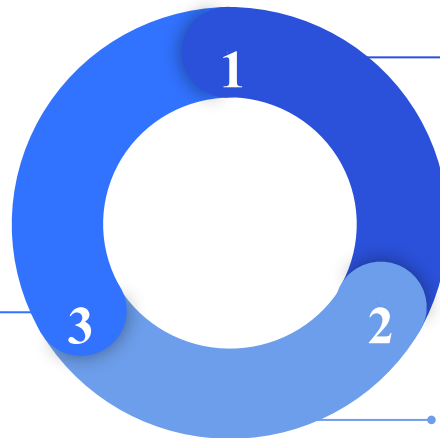
Multi-family housing EV charging installation tool

Tool users

Multi-family housing (MFH) tenants / residents

MFH owner / managers / housing authority

Main goal



Promote the adoption of EVs and support the transition to a more sustainable transportation system by expanding access to charging infrastructure in multi-family housing developments.

Provide guidance and support for property owners, managers, and other stakeholders who are interested in installing electric vehicle (EV) charging stations in multi-family housing developments.

It provides users with a step-by-step process for evaluating these factors and developing a plan for EV charging installation that meets their specific needs and circumstances

Multi-family housing EV charging installation tool

Assumptions and background information

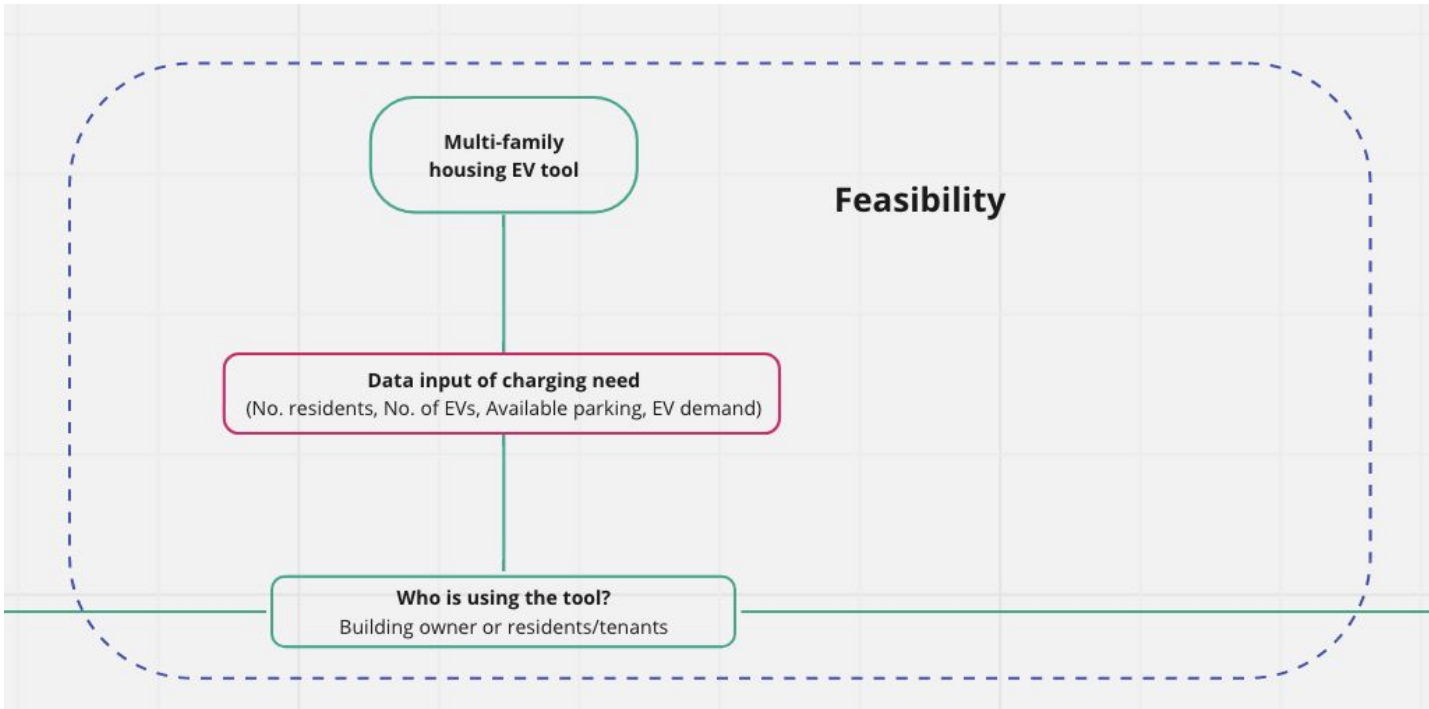
Users live in/own multi-family housing

Users want to install EV charging infrastructure

Information/resources are provided to the user in every step

The tool does not make decisions for you, it provides resources

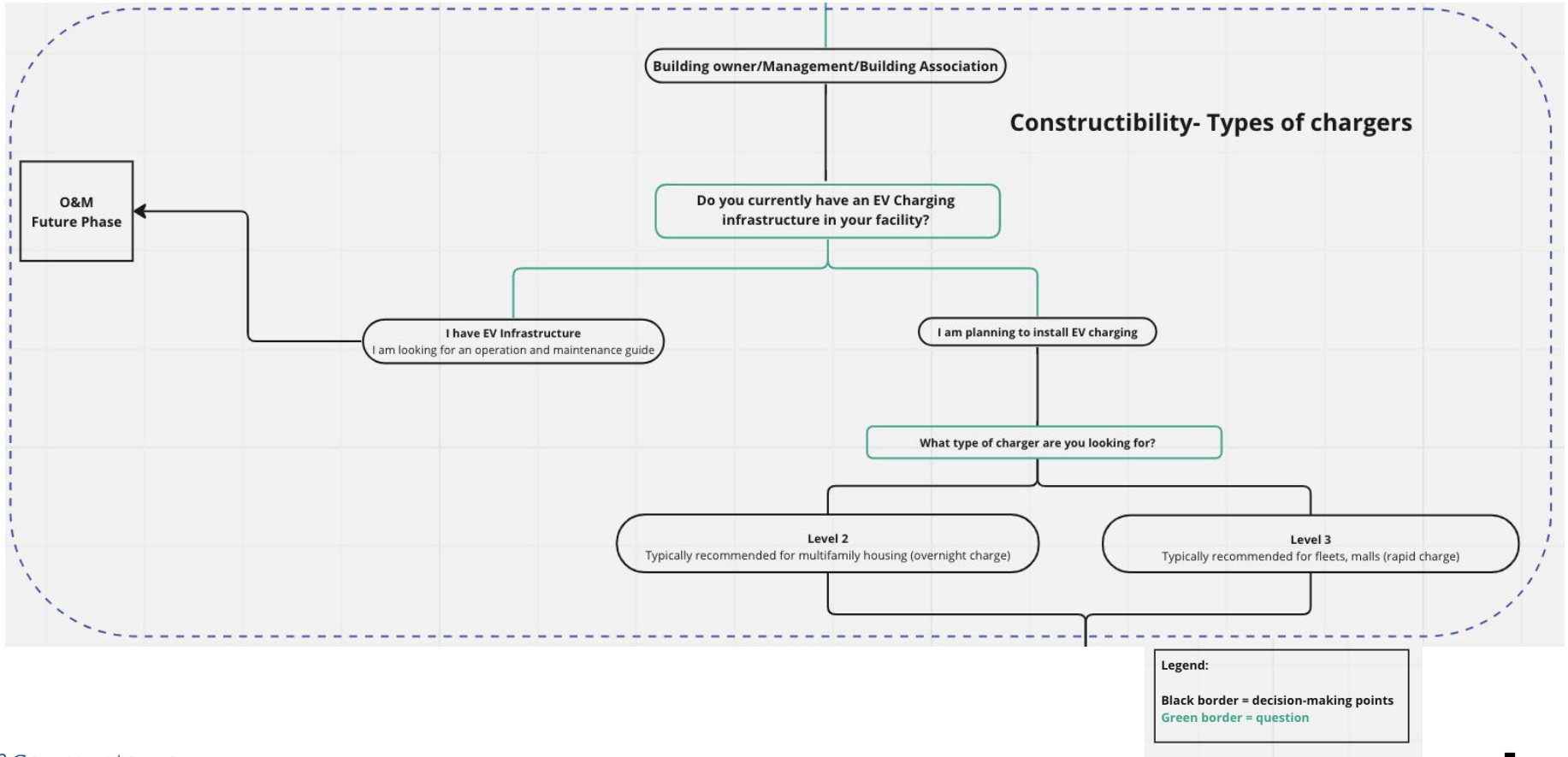
Flowchart



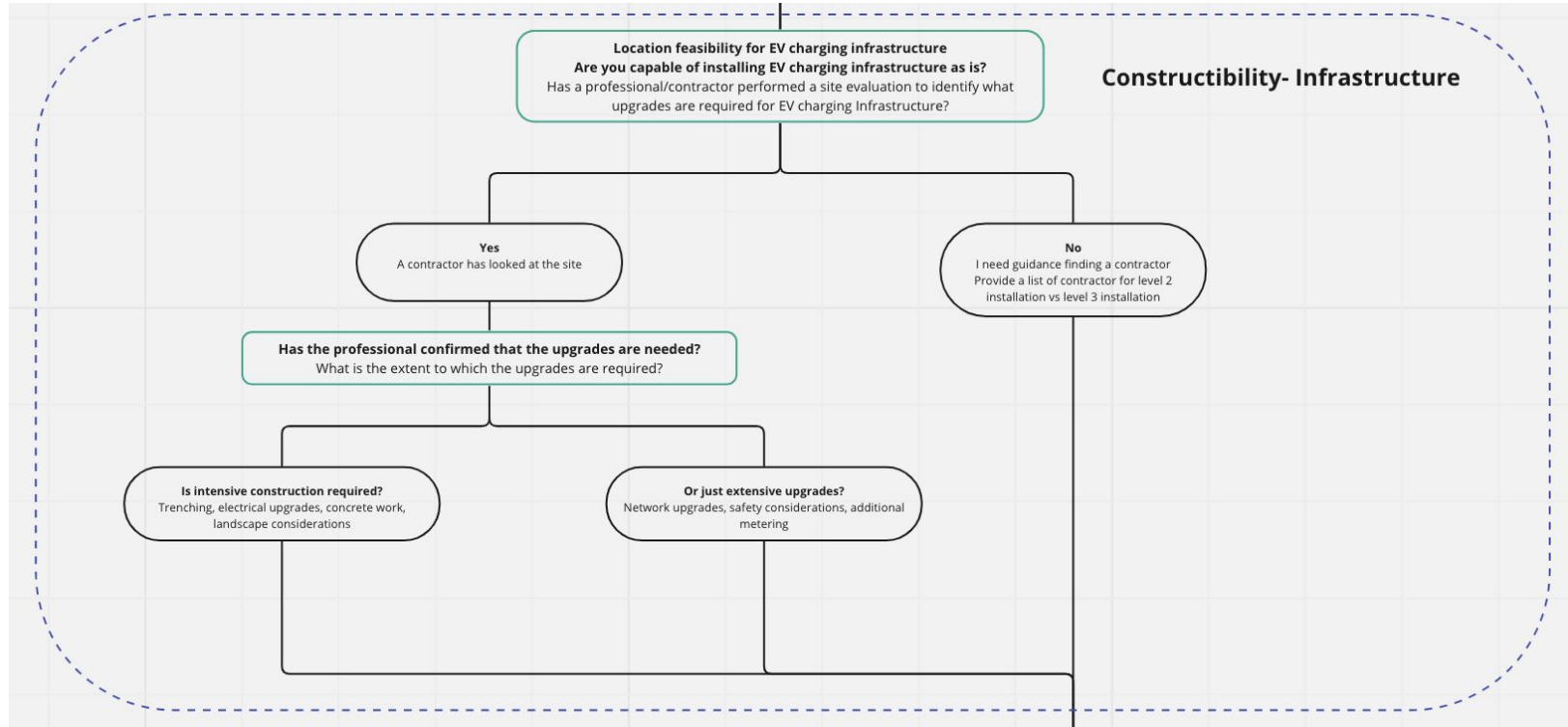
Legend:

Black border = decision-making points
Green border = question

Flowchart

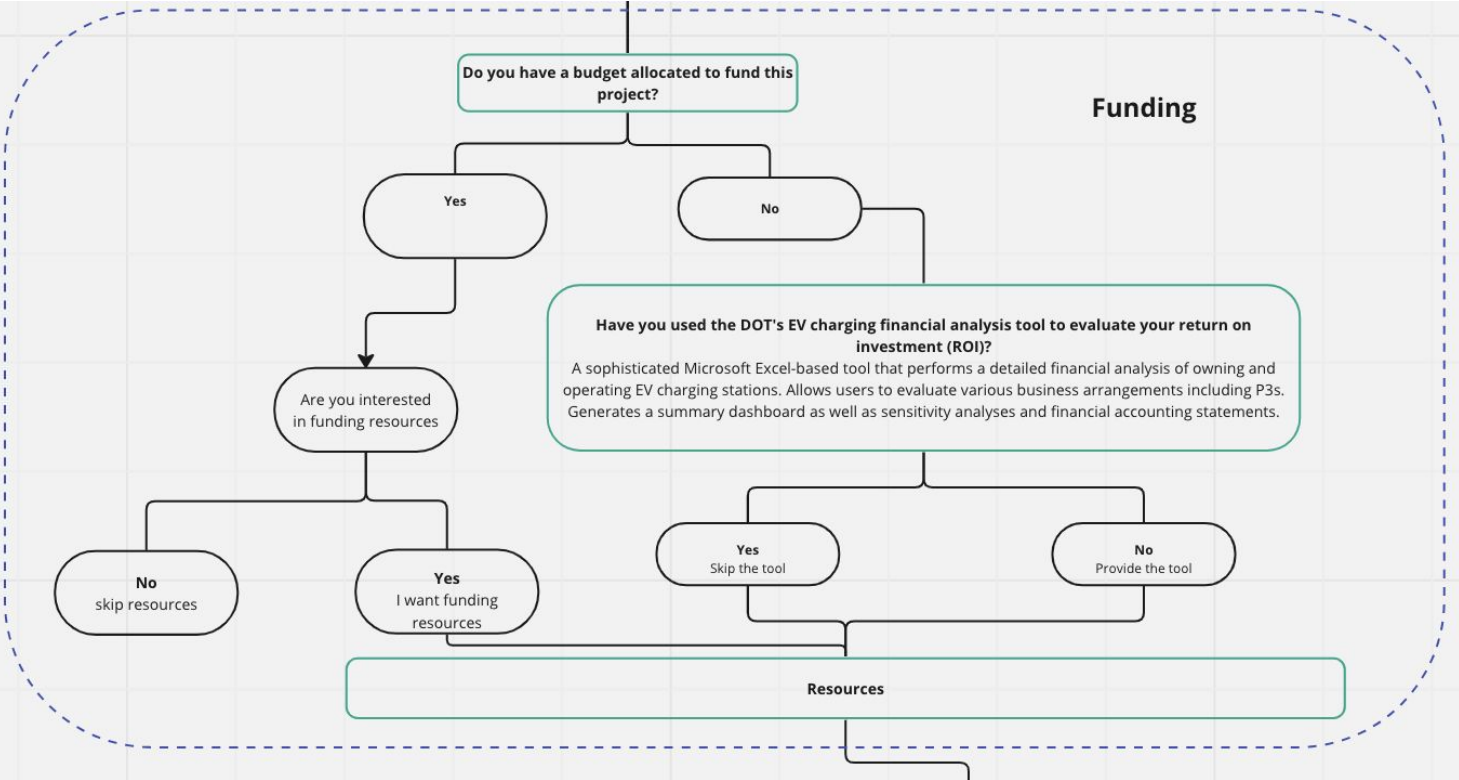


Flowchart



Legend:
Black border = decision-making points
Green border = question

Flowchart



Legend:
Black border = decision-making points
Green border = question

Flowchart



List of the resources available for funding the EV charging infrastructure:

Local

1. **New York City Department of Transportation:** The NYC DOT offers a variety of incentives for installing EV charging infrastructure, including rebates, grants, and tax credits. For example, the NYC DOT offers a \$1,000 rebate for the installation of each Level 2 charging station. To be eligible for a rebate, you must be a landlord of a multi-family housing property in NYC.
2. **New York City Department of Housing Preservation and Development:** The NYC HPD offers a variety of programs that provide financial assistance to low-income residents who want to purchase an EV. For example, the NYC HPD offers a \$2,500 grant for the purchase of an EV. To be eligible for a grant, you must be a low-income resident of NYC who is purchasing an EV.
3. **New York City Council:** The NYC Council has approved a number of initiatives to promote the use of EVs in NYC, including the installation of EV charging infrastructure. For example, the NYC Council has approved a bill that requires all new buildings in NYC to have EV charging infrastructure. To be eligible for funding from the NYC Council, you must be a landlord of a multi-family housing property in NYC.

*The eligibility requirements for funding opportunities from the NYC DOT, NYC HPD, and NYC Council vary depending on the specific program. However, in general, you must be a landlord of a multi-family housing property in NYC to be eligible for funding.

State:

1. **The New York State Energy Research and Development Authority (NYSERDA)** offers a variety of funding opportunities for installing EV charging infrastructure, including rebates, grants, and tax credits. For example, NYSERDA offers a \$2,500 rebate for the installation of each Level 2 charging station. To be eligible for a rebate, you must be a resident of New York and you must install EV charging equipment that meets NYSERDA's requirements.
2. **Grants:** Many states offer grants for installing EV charging infrastructure. For example, the state of New York offers grants of up to \$25,000 for the installation of EV charging equipment. To be eligible for a grant, you must be a business or organization that is located in the state.

Federal:

1. **Internal Revenue Service:** The Internal Revenue Service (IRS) offers a variety of tax credits for businesses and individuals who install EV charging infrastructure. For example, the IRS offers a tax credit of 30% of the cost of installing EV charging equipment.

Private EV charging companies:

1. **ChargePoint:** ChargePoint offers a variety of financing options for businesses and organizations that want to install EV charging infrastructure. For example, ChargePoint offers a lease-to-own option that allows businesses to install EV charging equipment without having to make a large upfront investment.
2. **Tesla:** Tesla offers a variety of financing options for businesses and organizations that want to install EV charging infrastructure. For example, Tesla offers a lease-to-own option that allows businesses to install EV charging equipment without having to make a large upfront investment.
3. **EVgo:** EVgo offers a variety of financing options for businesses and organizations that want to install EV charging infrastructure. For example, EVgo offers a lease-to-own option that allows businesses to install EV charging equipment without having to make a large upfront investment.

!! Disclaimer for Education purpose only

NEED AND FEASIBILITY

What is the EV charging Need?

- How many parking spaces are typically required/available for Multi-Family Housing buildings?
- Is it feasible to install electric vehicle (EV) charging stations in the parking area?
- What challenges, if any, are you facing with regard to EV infrastructure at surface lots?
- How are you projecting the future needs for EV charging stations?
- What are the residents' needs for EV charging stations?

VISION

What is the EV charging Infrastructure Vision for NYCHA?

- What types of charging stations are available and how many are there in the plan?
- Have your teams assessed future upgrade requirements to accommodate charging stations?
- Does NYCHA have a Master Plan that outlines how charging stations will be phased in, and how many will be installed?

Is there a plan to implement EV car sharing programs in NYCHA buildings?

- Available cars for sharing
- Ensure equal access to all the residents
- Open to all NYCHA residents? Or any eligibility requirements?

OPERATIONS & MAINTENANCE

- Concerns about installing EV charging infrastructure?
- Addressing any maintenance or repair needs?

OWNERSHIP/FUNDING

Who is going to own those stations?

- 3rd party owned or owned by NYCHA?

What funding opportunities are you/will look at?

- Is there a process for pursuing EV charging funding, and has it been a challenge?
- Department of Transportation's (DOT) tool to calculate the return-on-investment (ROI)

COMMUNICATION

Is NYCHA already partnering with local communities?

- Partnerships with local utilities or other organizations to fund installation and operations
- Residents communicating their needs regarding EV charging stations

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Thank you!

