THEATRE PROPOSAL

Downtown Farmingdale

FARMINGDALE STATE COLLEGE
SPRING 2025 // DESIGN IV
PROFESSOR KWAK

Black Box Theater Precedent Study

I. Introduction

A black box theater is a simple performance arts space typically used for intimate plays and shows with lower budgets. The space tends to be flexible and minimalist to accommodate different styles of performance on a need-to-need basis; the seating is, for the most part, not fixed, allowing the shape of the stage to change. The space can also be used for nontheatrical events such as auctions, art shows, and civic events.

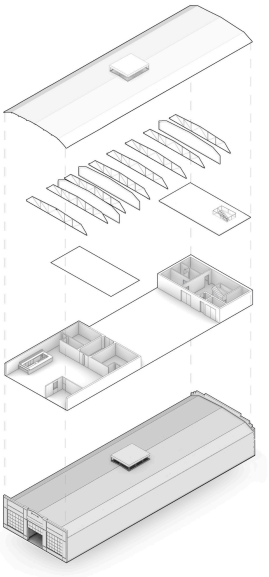
The Village of Farmingdale is currently in the beginning stages of bringing a black box theater to the town. They are looking for a space that fits roughly 180-250 people on a lot size of 85’ x 100’ or 8,500 sq ft. They also requested that an art gallery be included in the space and that the building be no more than 2.5 stories tall or 24’-30’ without needing a basement.

By studying existing black box theaters, we were able to compile data that will help with furthering the development of this desired performance space. With limited space to work with and the awkward positioning of the site itself, looking into existing black box theaters helps us to solve many of these issues. Some solutions revolve around adaptable seating arrangements, efficient acoustics, and multifunctional staging options.

Here we present case studies of existing black box structures highlighting their square footage, layouts, materials used, and technical considerations. Our findings will present recommendations for the Farmingdale project, ensuring that the proposed theater meets both aesthetic and functional requirements. With the goal of creating a dynamic, community centered space that fosters artistic expression and community engagements, this research aims to support that.

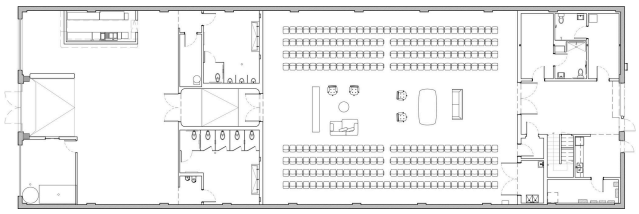
II. Past Precedents

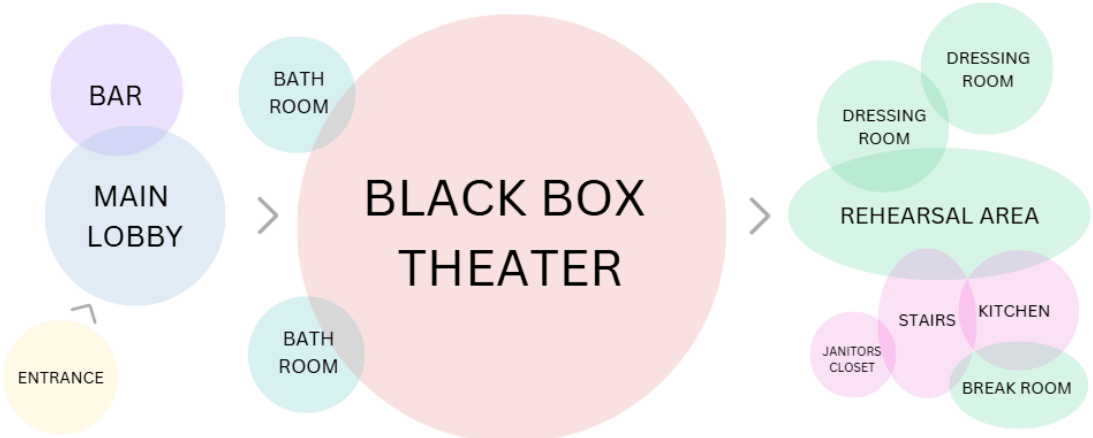
Detroit Public Theater
3rd Ave
Detroit, MI



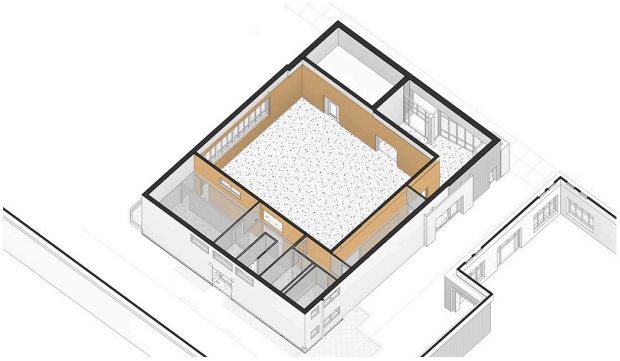
Key Notes:

- Type C
- **Lot Size:** 7,500 sq. ft.
- **Theater Size:** 50’ x 67’
- **200 Seats**
- Adaptive Reuse
    - Originally an automotive repair shop (100 y/o)



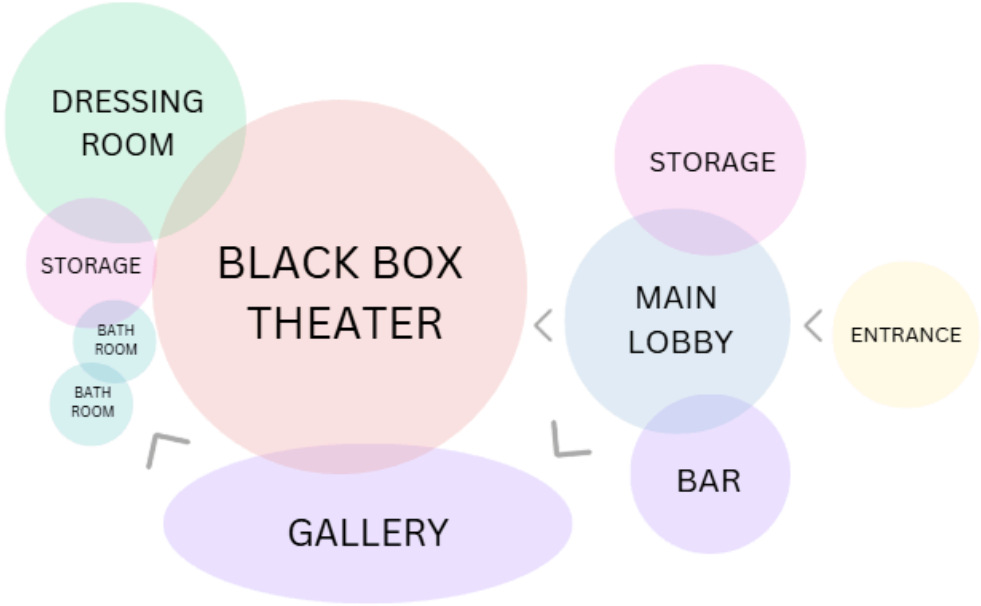


The Vault Theater
Hillsboro, OR

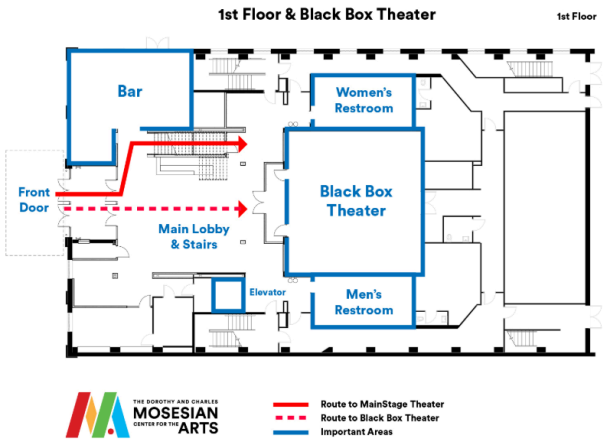


Key Notes:

- Type C
- Lot Size: 6,700 sq. ft.
- Theater Size: 50’ x 50’
- 144 Seats
- Events Include:
    - Plays
    - Lunch-ins
    - Auctions
    - Music

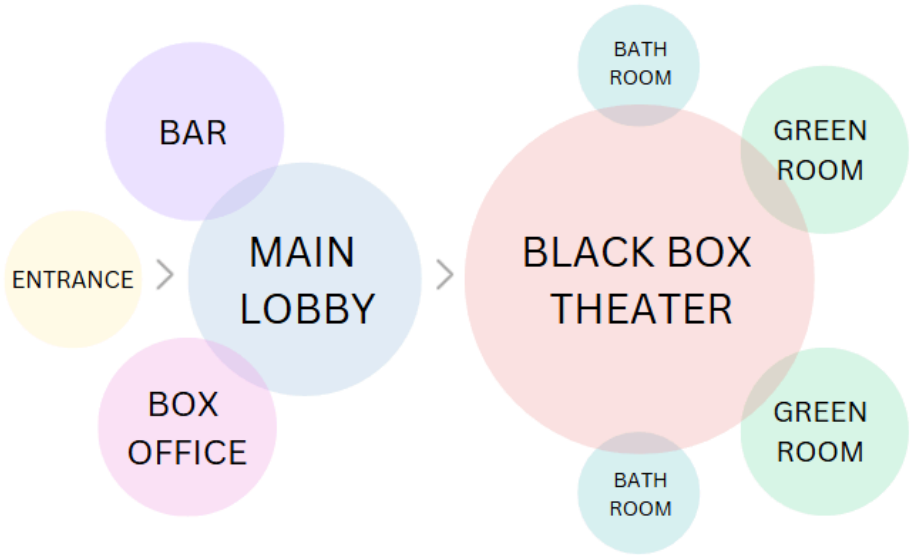


The Dorothy and Charles Mosesian Center for the Arts
Watertown, MA



Key Notes:

- Type B
- Lot Size: 5,500 sq. ft.
- Theater Size: 35’ x 27’
- 100 Seats
- Fostered to young talent



III. Compiled Data

Black Box Theater

- Centrally located within the building
- Surrounded by wide corridors for circulation (accommodating actors, performers, and stage sets)

Smaller Theaters

- Flexible audience seating arrangements
    - Some accommodate more audience members with a smaller stage (e.g., comedy, solo performances)
    - Some have more prominent stages with fewer seats (e.g., orchestras, plays)
- Utilize risers for sloped/stepped seating.

Lighting & Acoustics

- Ceiling piping grid spans the entire stage for lighting
- Speaker placement:
    - Near the front of the stage, directed outward
    - Surround sound in some cases
- Sound-dampening materials:
    - Curtains, foam, or cloth to reduce sound reflection

Backstage & Amenities

- Green rooms and stage offshoots hidden from audience view
- Performer bathrooms located near the green room
- Audience bathrooms placed near the foyer/entrance

Ceiling Height

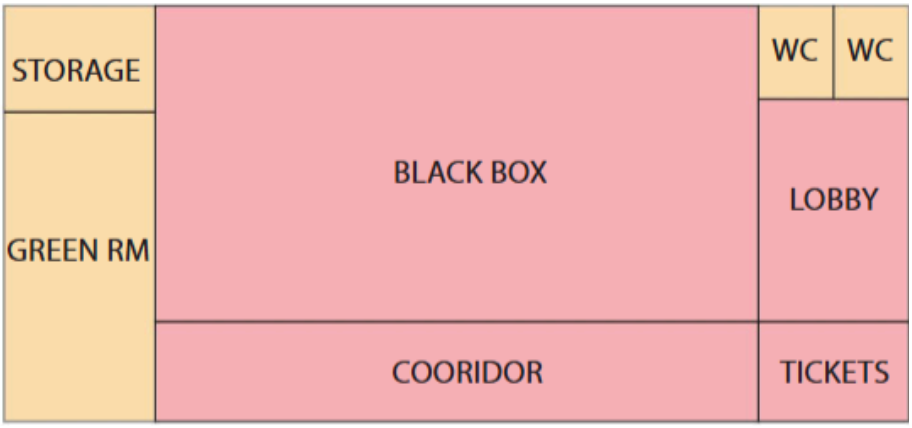
- Most designs utilize high ceilings (at least 12 ft)

IV. Types of Black Box Theater

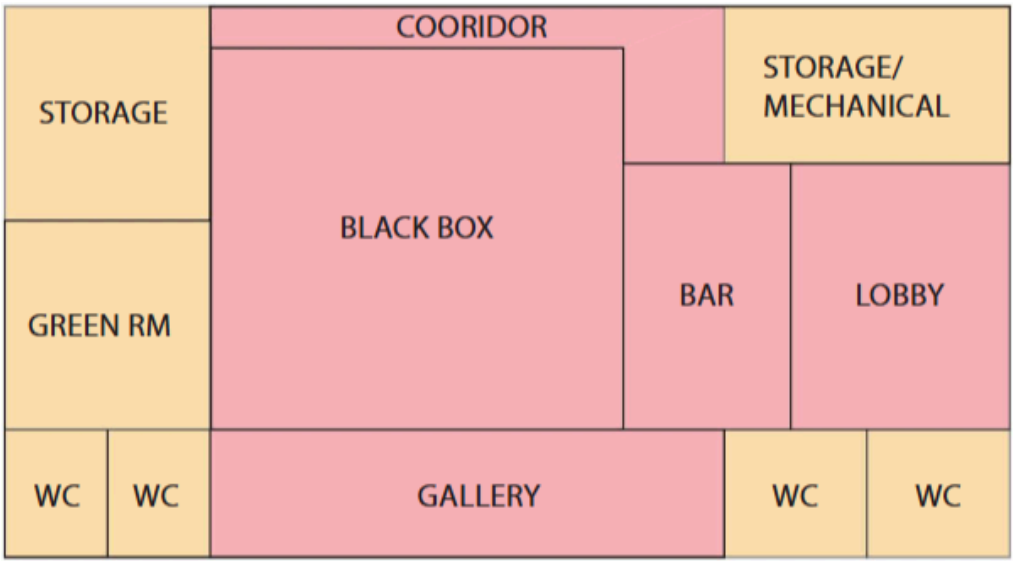
Type A: Theater

Type B: Theater + bar/entertainment

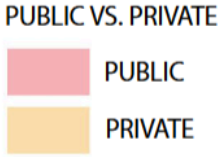
Type C: Theater + gallery



Type A



Type B/C



	Theater Size	Building Size/Footprint	Number of Seats	Seating Arrangements
Type A	30'-35' x 30'-45'	2000 - 4000 sq.ft.	50-150 seats	Flexible, movable
Type B	40'-50' x 50'-75'	4000 - 8000 sq. ft.	150-200 seats	Sometimes, flexible seating, mostly inclined bleachers, permanent arrangement
Type C	50'-60' x 60'-80'	8000 - 12000 sq.ft	175-300 seats	Mostly permanent seating, terrace, inclined bleachers

---

V. PDA Notes

Sound/Audio

The theater space is well-designed for acoustics through its design elements and technical functionality. The following observations can be made:

- The combination of **adjustable soundproofing/sound-absorbing materials** and **wood** suggests an intentional approach to optimizing acoustics
- Wood naturally enhances sound quality, making the space suitable for performances
- **Black curtains** contribute to visual flexibility, help with additional sound absorption, and reduce echoes.
- **No countertops against the window** highlight the importance of an unobstructed view from the control room, ensuring clear sightlines for sound and lighting technicians.

- **Lack of outlets** is a significant drawback, as theaters require multiple power sources for lighting, audio equipment, and other technical needs. Addressing this issue is critical for functionality.

Seating

Proper seating ensures that every audience member has a clear view of the performance while contributing to the intimacy and unique atmosphere that black box theaters are known for. The following observations can be made:

- **Multiple entrances** provide flexibility for different production layouts, enhancing adaptability for various performances.
- Using **wooden slabs** helps create an immersive theatrical atmosphere, reinforcing the illusion of a traditional theater setting.

Other

The theater's safety and communication systems are well-structured to ensure a successful performance. The following observations can be made:

- **Smoke detectors** restrict performance creativity by preventing fog or smoke effects, making heat detectors preferable. It was recommended that heat detectors be used instead.
- **Phones** stationed around the facility ensure quick and effective communication between staff, which is crucial for coordinating performances, managing emergencies, and maintaining overall operational efficiency.
- **Removable mezzanine rails** provide flexibility for lighting adjustments, allowing for dynamic stage setups while maintaining safety when needed.

VI. Conclusion

Based on our compiled data, it is clear that there are many strategies we can utilize in the new proposed performing arts center located in the heart of Farmingdale. The key points that many designers keep in mind when creating a black box theater are flexibility, acoustics and functionality. A small theater typically allows for adaptable seating arrangements and stage prominence depending on the performance type. Lighting and sound are well planned with the utilization of ceiling piping grids, strategic speaker placement, and sound dampening materials to ensure optimal auditory experience for everyone.

Backstage amenities such as changing rooms, bathrooms, and outside access for large stage crew materials allow for elevated experiences for the performers and workers as well, all the while keeping them out of sight from the audience. Our theater types allow us to easily categorize sizes and adjacencies for further planning of design. With the desired amenities and number of seats that Farmingdale requests we must adapt a few strategies offered by both type A and type B.

Overall these design elements create a well rounded and functional performance space that will foster community engagement, prioritize audience experience and technical efficiency, and become a new beacon for the town of Farmingdale.

Village of Farmingdale Site Analysis

I. Introduction

Great places are not solely defined by their buildings, but by the experiences they create and the connections they foster. The Village of Farmingdale is a community shaped by its streets, public spaces, and the people who bring them to life. Main Street has historically served as the village's commercial and cultural heartbeat. However, there exists an opportunity to expand this narrative by introducing a **Performing Arts Center at 141 Division Avenue.** More than just a venue, this space aims to **merge culture, community, and creativity** into a single, dynamic destination.

Through thoughtful urban planning and adherence to the **Farmingdale Master Plan**, this development can redefine how residents and visitors experience the village, transforming it into a place not just for transit, but for engagement, gathering, and inspiration.

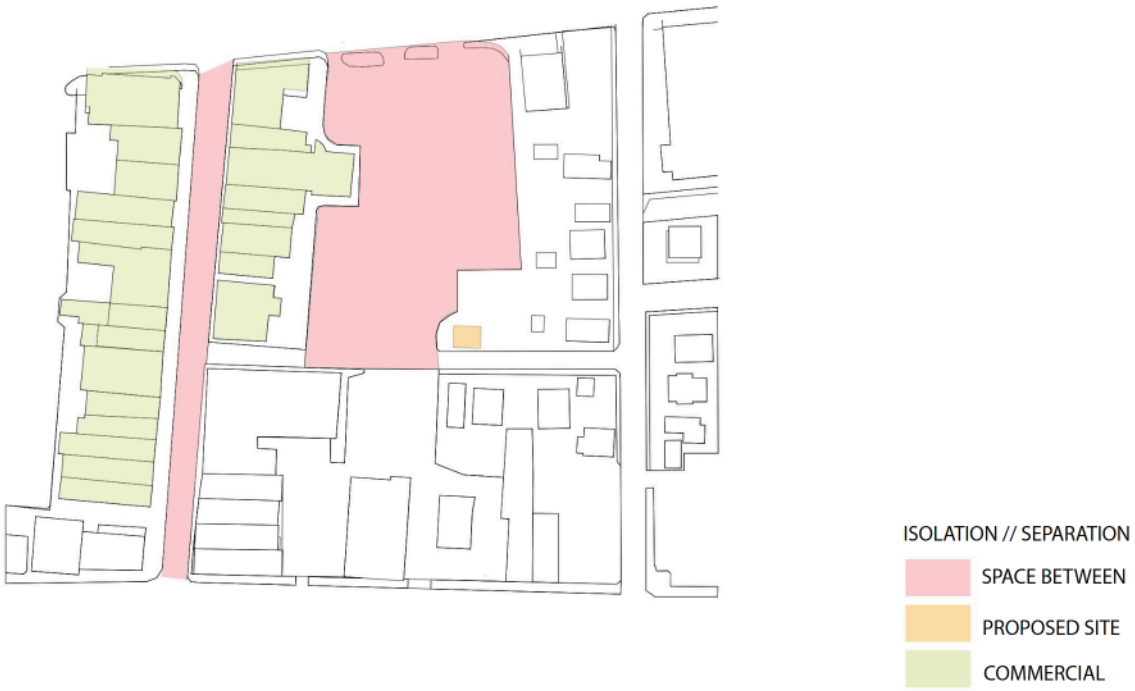
II. Zoning and Development Potential

The site at **141 Division Avenue** is located within the **Downtown Mixed-Use (D-MU) Zone**, allowing for flexible development that aligns with the village's revitalization goals.

Key Zoning Parameters:

- **Section-Block-Lot (SBL):** 49-1-17
- **Lot Size**: 3,200 sq. ft.
- **Building Size**: 1,466 sq. ft.
- **Maximum Building Coverage**: 90%
- **Maximum Floor Area Ratio (FAR)**: 1.5
- **Maximum Building Height**: 3.5 stories (36 feet)
- **Setbacks:** None required (front, side, rear)
- **Landscape Buffer:** 25 feet minimum (when adjacent to residential properties)

This zoning designation **encourages pedestrian-friendly, high-density development**, which is ideal for a cultural institution such as a **Performing Arts Center**. The flexibility in setback requirements allows for an efficient use of space, while the height and FAR regulations ensure compatibility with existing structures.



III. Site Context and Existing Conditions

Location Analysis

The site is **strategically positioned** just north of **Main Street,** Farmingdale's central commercial corridor. Adjacent to the property is a **public parking lot**, ensuring accessibility for visitors. To the **west** of the site lies the **Long Island Rail Road (LIRR) Farmingdale Station**, a crucial transportation hub connecting the village to the greater metropolitan area.

Connectivity and Accessibility

- **Pedestrian Access:** The site benefits from a walkable downtown setting with **wide sidewalks and pedestrian crossings.**
- **Transit Connectivity:** The **LIRR station** provides direct train access to New York City and surrounding Long Island communities.
- **Vehicular Access:** The site is near **Route 109 and Route 24**, which facilitate regional connectivity.
- **Parking Availability:** The adjacent municipal parking lot ensures that visitors can access the site conveniently without exacerbating on-street parking demand. These factors create an **opportunity to extend the vibrancy of downtown Farmingdale** beyond Main Street, reinforcing the site's suitability for a community-oriented cultural venue.

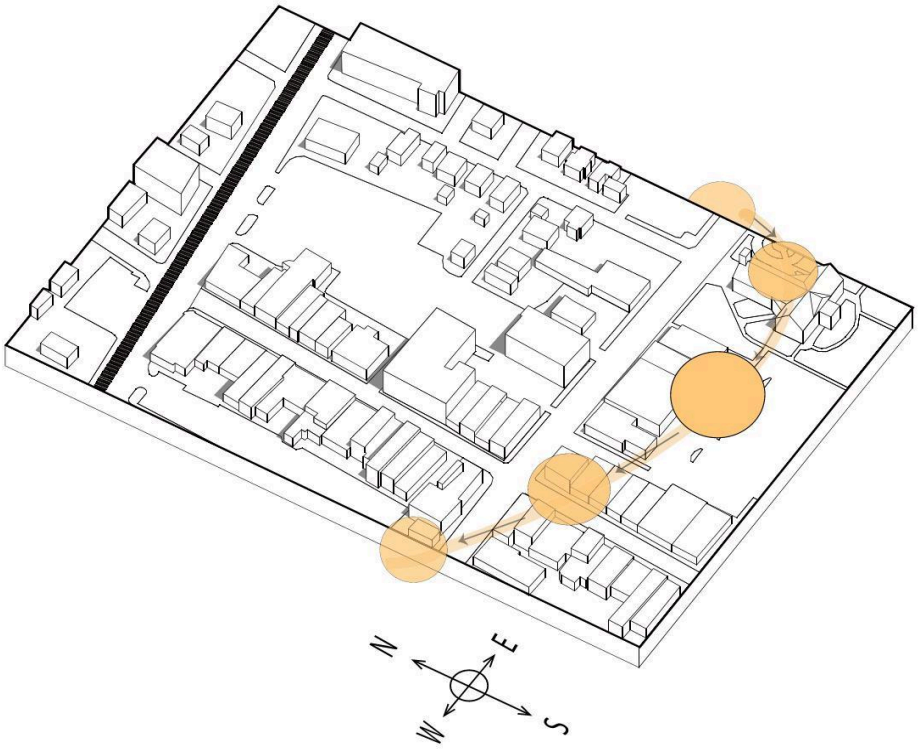
BUILDING DIVERSITY

- RESIDENTIAL
- FOOD/DRINK
- COMMERCIAL
- RELIGIOUS

INTEGRATION ANALYSIS

- NEUTRAL
- NON-FAMILY
- FAMILY

IV. Sun Path by Seasons



IV. Existing Circulation & Connectivity

Traffic Flow and Transportation

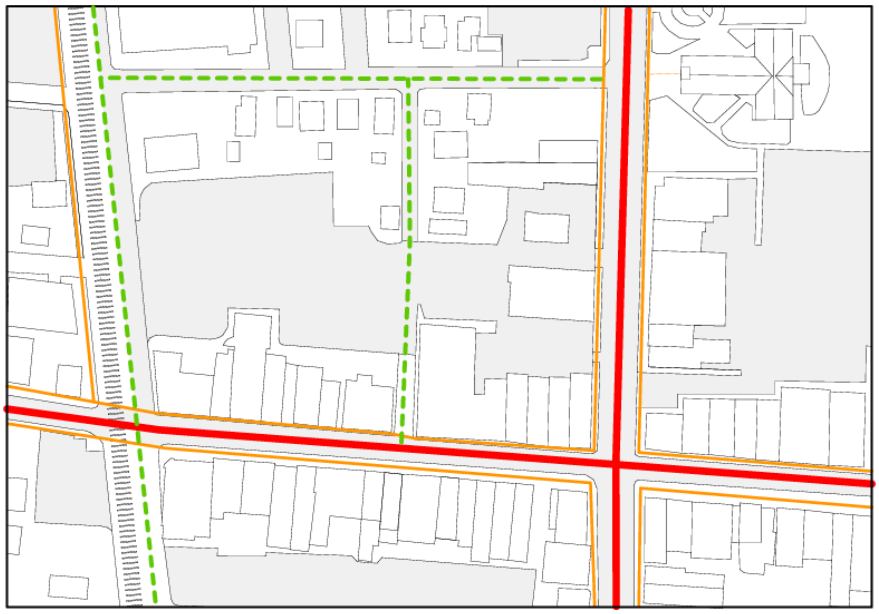
The site's **proximity to major transportation nodes** influences traffic circulation in the area. The following observations can be made:

- **Main Street and Secatogue Avenue** serve as the primary arteries for vehicular movement.
- Traffic congestion is moderate, with peak activity occurring during commuter hours due to the LIRR station.
- **Bike lanes and pedestrian paths** are present, supporting multimodal transit options.

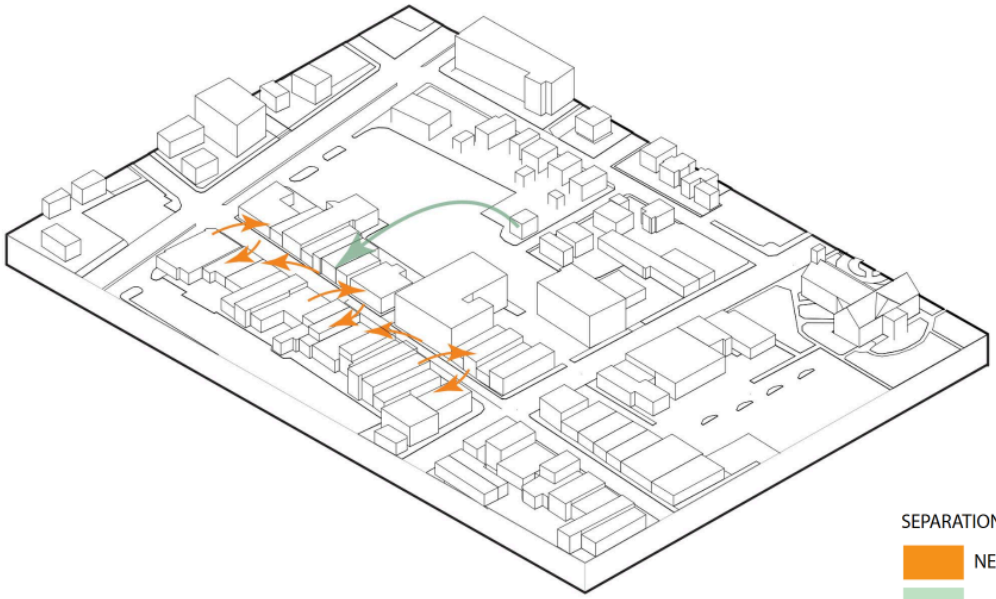
Green Space Analysis

While **Farmingdale Village Green** provides a notable public park in the downtown area, additional **landscaping and urban greenery** could enhance the streetscape along Division Avenue. Proposed enhancements include:

- **Tree planting initiatives** to improve shading and aesthetic appeal.
- **Pocket parks and seating areas** near the Performing Arts Center to promote outdoor gathering.
- **Sustainable stormwater management solutions**, such as bioswales and permeable pavement, to support urban resilience.



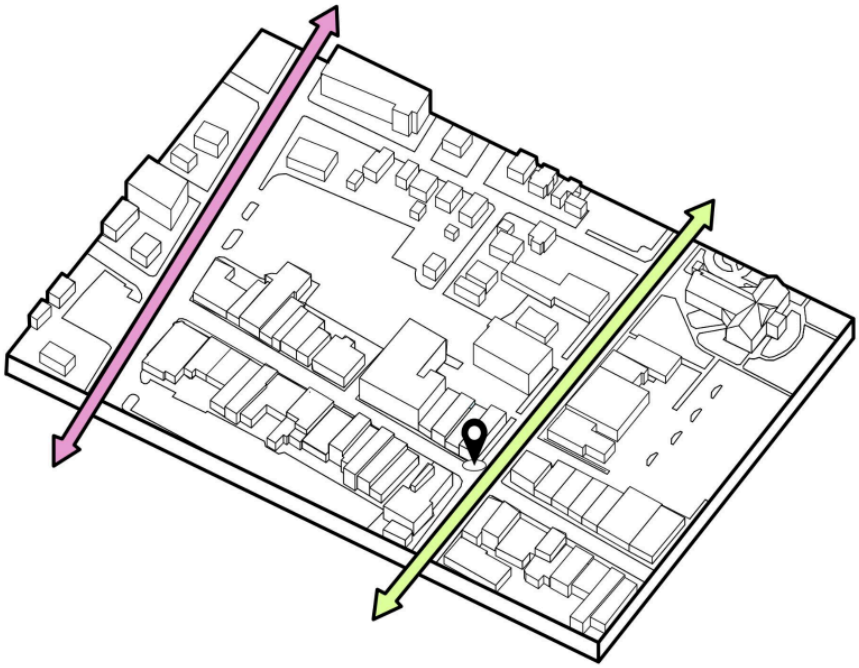
Primary Vehicular Circulation
Secondary Vehicular Circulation
Pedestrian Circulation



SEPARATION // ISOLATION

NEAR

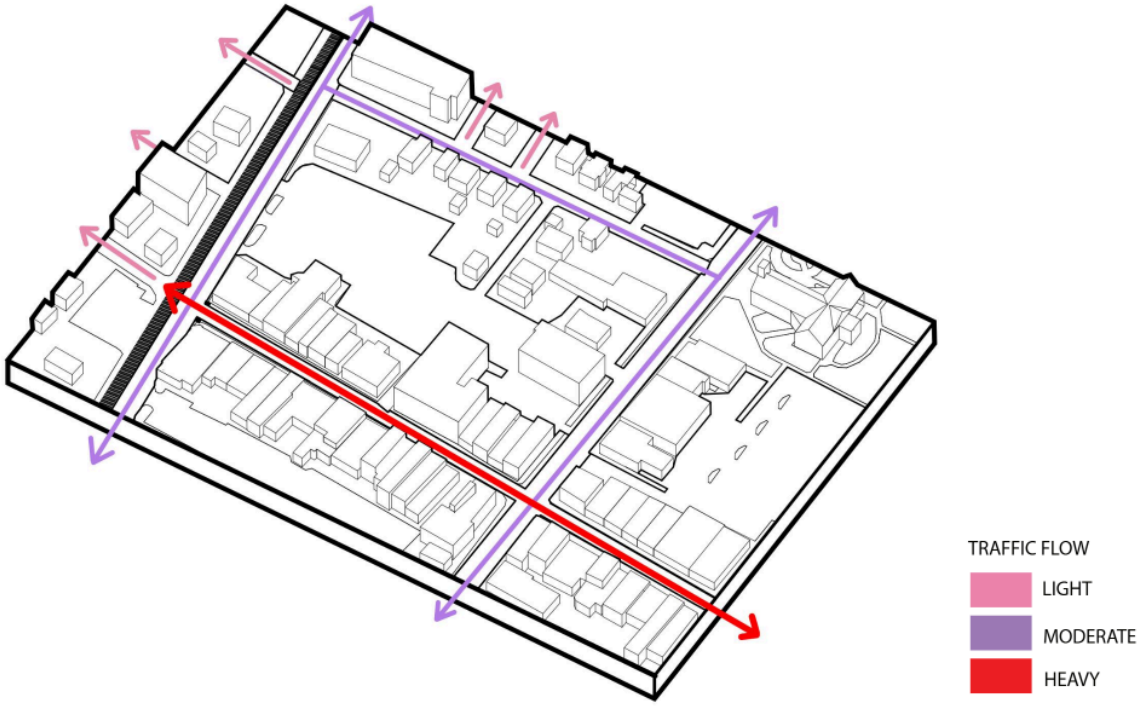
FAR

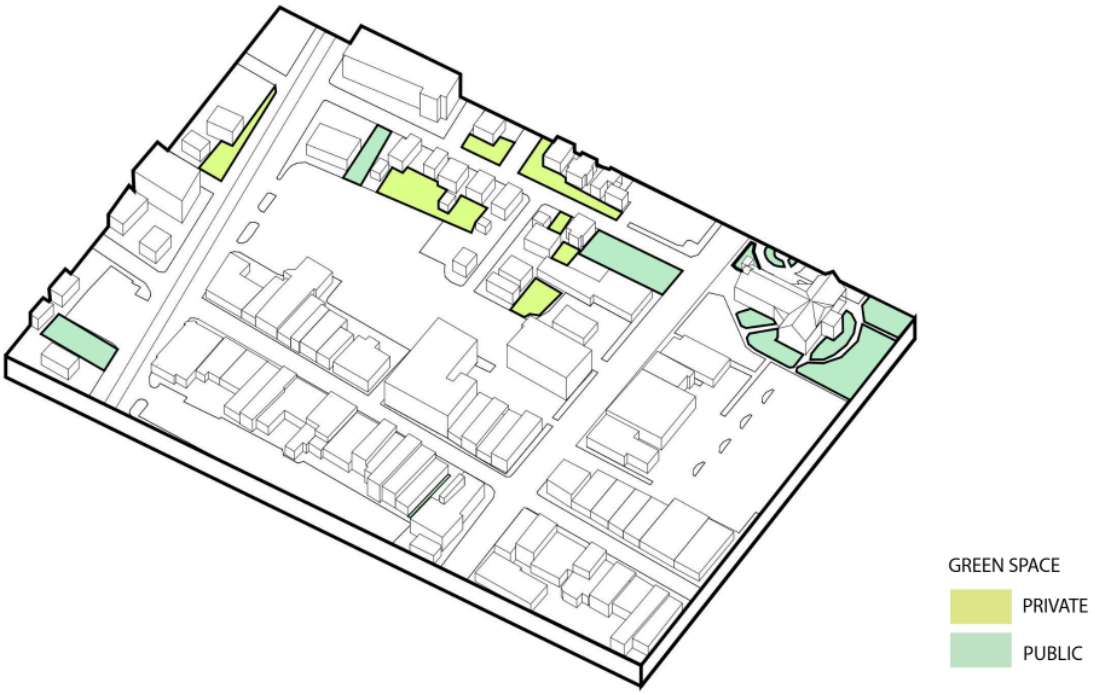


PUBLIC TRANSPORTATION

RAILROAD

BUS ROUTE


TRAFFIC FLOW
LIGHT
MODERATE
HEAVY


GREEN SPACE
PRIVATE
PUBLIC


MAIN STREET
Existing Green Space

V. Building Use and Surrounding Context

The **Existing Building Use Diagram** categorizes the area's land use as a mix of:

- **Residential:** Single-family and multi-family dwellings.
- **Commercial:** Restaurants, retail, and office spaces.
- **Institutional:** Community centers, churches, and schools.
- **Transportation:** LIRR station and associated infrastructure.

The proposed Performing Arts Center can serve as a **catalyst for economic and cultural revitalization**, seamlessly integrating into the existing urban fabric while enhancing Farmingdale's **arts and entertainment offerings.**

Streetscape Analysis:

- **Materials:** Brick
- **Lighting (Day):** Sunlight
- **Lighting (Night):** Low lighting at night
- **Street Furniture:** Rustic lamp posts, Rustic clock, Rustic/Basic Garbages scattered

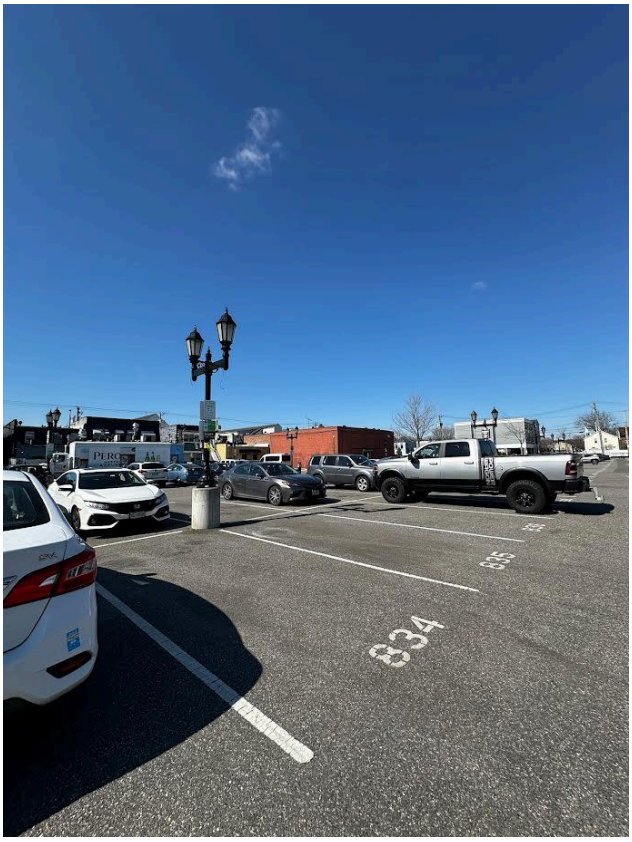
Building Usage Over Time:

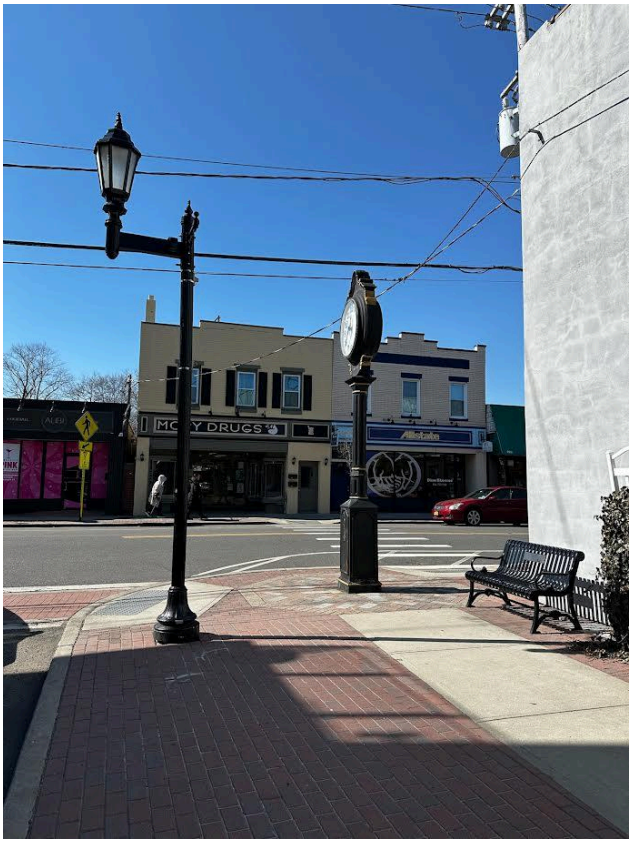
https://youtu.be/tXoCK9O5SlI?si=Eek65O-e7XFp-e5r

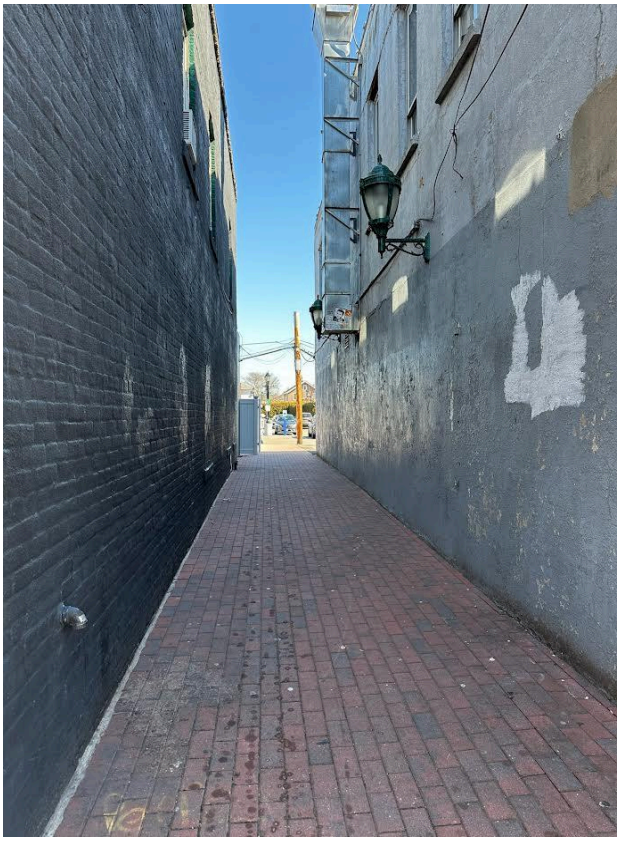
This is a great visual representation of how Main Street has changed over the years. This video on the left was originally made in 1999 and the right side of the video was taken in 2024. While there are a few stores that are the same, there are many stores as well that have changed many times throughout the years.

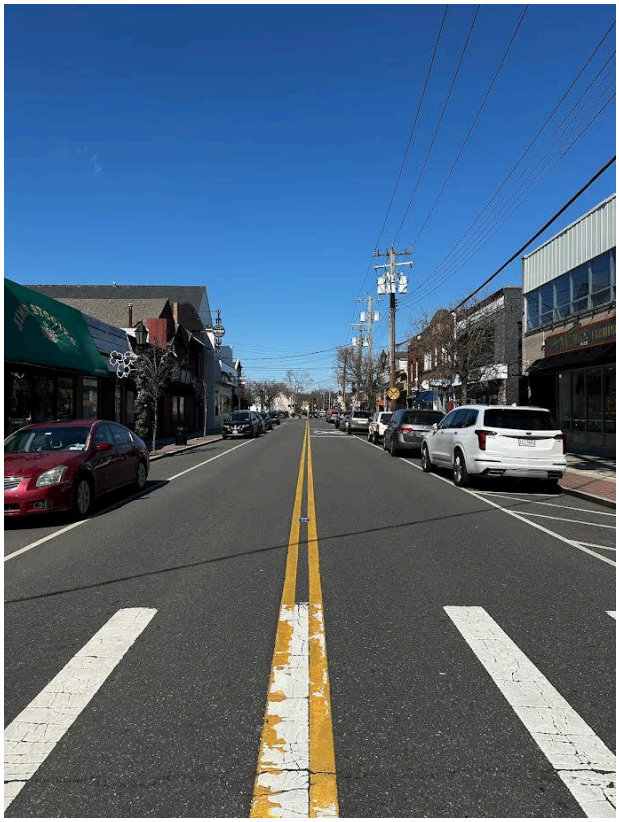
Photos of Existing Site:

Photos of Surrounding Area:

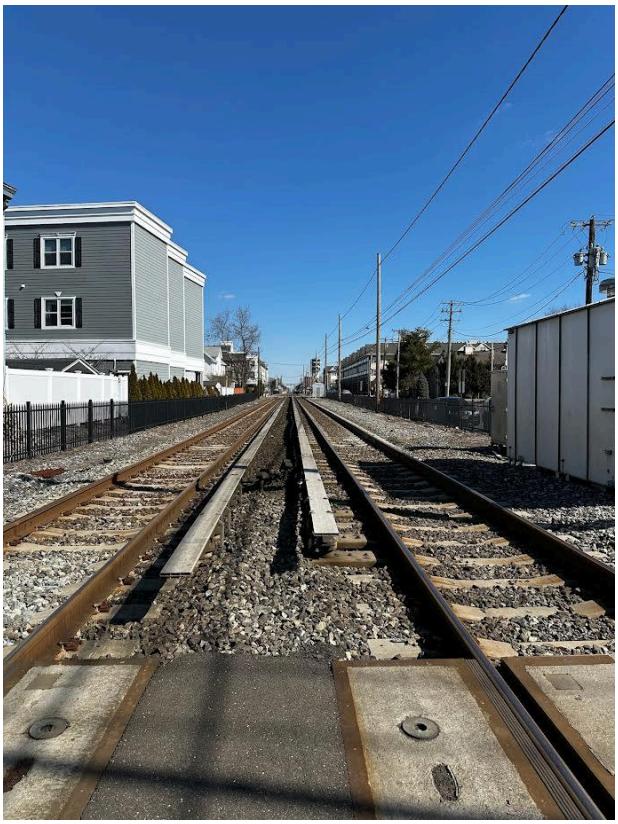


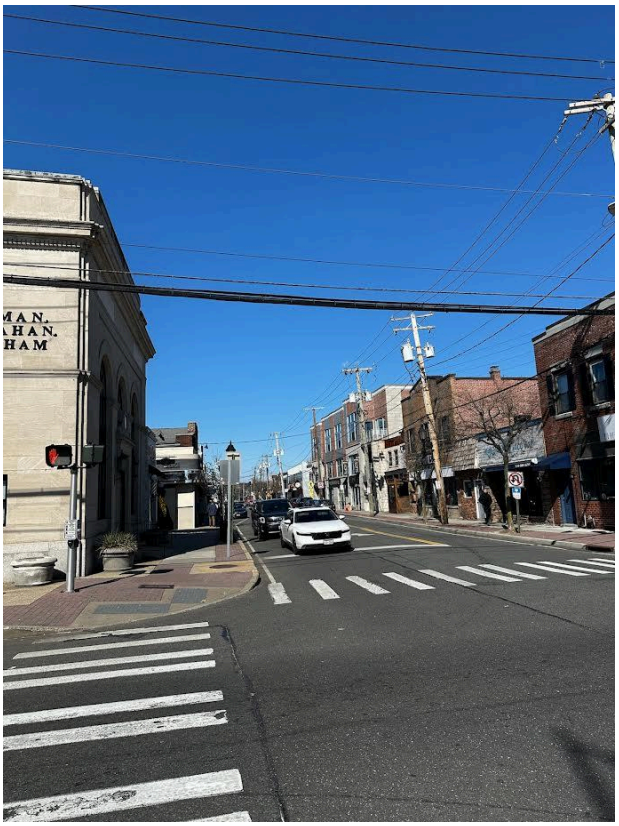


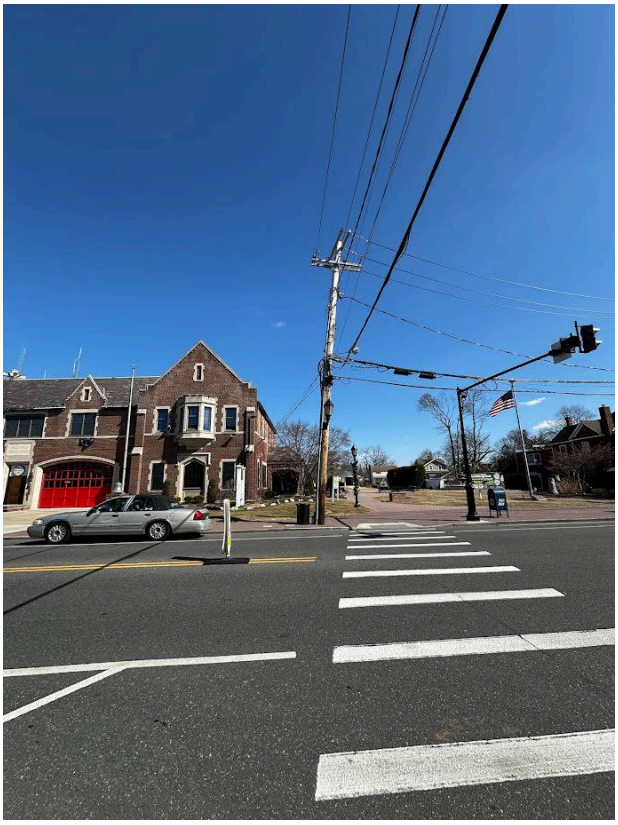





BRUNCH







VI. Opportunities and Challenges

Opportunities:

- **Cultural Hub:** The venue can act as a bridge between Main Street's commercial activity and the surrounding residential neighborhoods.
- **Economic Growth:** Increased foot traffic can benefit local businesses.
- **Community Engagement:** Public spaces and interactive installations can **strengthen community identity.**

Challenges:

- **Noise Considerations:** Managing sound levels to maintain a balance between **liveliness and residential tranquility**.
- **Funding & Development Costs:** Securing financing for construction and long-term operations.
- **Infrastructure Coordination:** Ensuring alignment with **sewer, water, gas, and electric** infrastructure capabilities.

VII. Historical Overview of Farmingdale and Main Street

Early Development

Farmingdale's origins trace back to the **17th century**, with the area becoming formally recognized in **1904**. The construction of the **Long Island Rail Road (LIRR) in 1841** spurred growth, establishing the village as a transportation and economic hub.

Notable Landmarks on Main Street:

- **Farmingdale Music Center (1945-2018)** – A community staple for over seven decades.
- **Farmingdale Hotel & Bar (1935-1944)** – A historical commercial establishment.
- **St. Kilian Church (Established 1896)** – A longstanding religious and cultural institution.

History of St. Kilian Church:

Saint Kilian Church dates back to the **19th century**, It was established in 1896 and in this time they were serving a rural farming community of approximately 1,000 residents. The church finished construction in 1898 and was a testament to community dedication. After an increase in population, they were in need of more space to fit in the parish. They began **renovations in 1995**, they started with demoing the old structure while preserving and restoring historic artifacts such as the stained glass windows, stations of the cross, the church organ, pews, and chandeliers. From this **expansion they gained 522 people**. They went from 360 to 882. In addition to this they also built a new altar, two baptismal fonts, a complete HVAC system, an assessed listening sound system, and a clock tower featuring three digital to function without resetting until 2050.

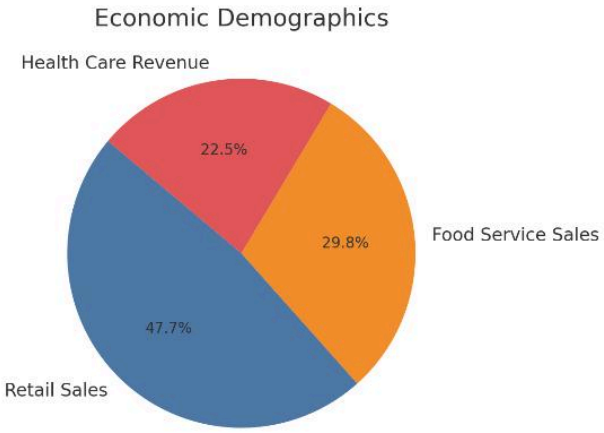
Modern-Day Farmingdale

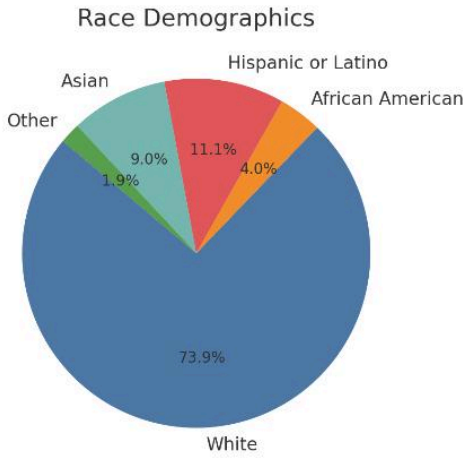
- **Revitalization projects** have encouraged **new businesses, restaurants, and cultural events.**
- The **Downtown Revitalization Initiative (DRI)**, while not secured in 2019, set a foundation for future **urban renewal efforts.**
- Streetscape improvements, including **brick paving, rustic lighting, and historical preservation**, contribute to the charm of Main Street.

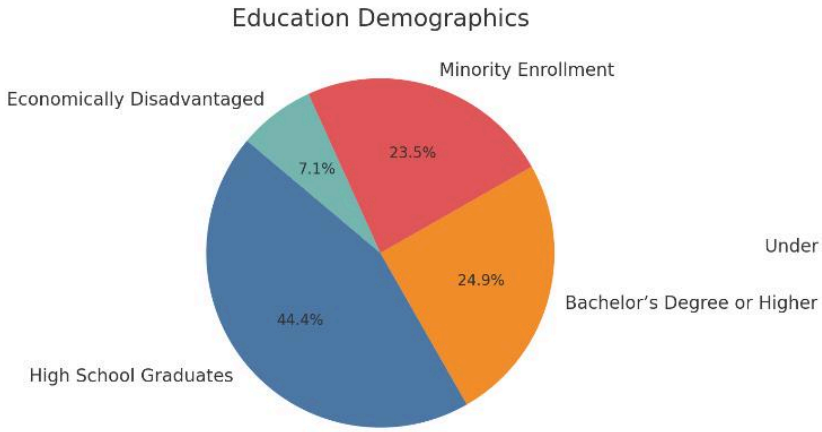

THE ONLY LAW
THE BEST
EC
MODEL

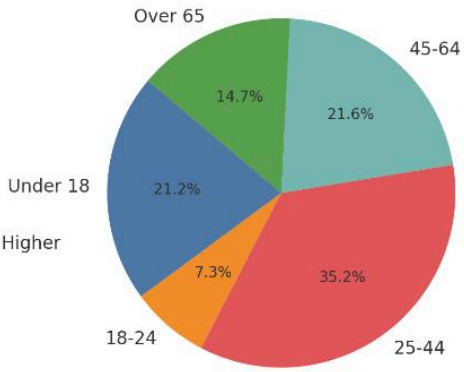

FARMINGDALE
ALL SEATS AT ANYTIME
77¢

VIII. Village of Farmingdale Demographics









Fun Fact - Village of Farmingdale
Official Flower - Forsythia

BUILDING CODE ANALYSIS

New York State Building Code Summary for a 180-Seat Theater

Table of Contents

1. Construction Type Requirements
2. Accessibility Requirements
3. Village Ordinances (Farmingdale Master Plan & Architectural Review)
4. County Ordinances (Fire Marshal & 239F Compliance)
5. Conclusion
6. Detailed Design Specifications
7. Building Construction Types Analysis
8. Fire Protection Systems
9. Fire-Resistance Ratings
10. Local Regulations and Inspections

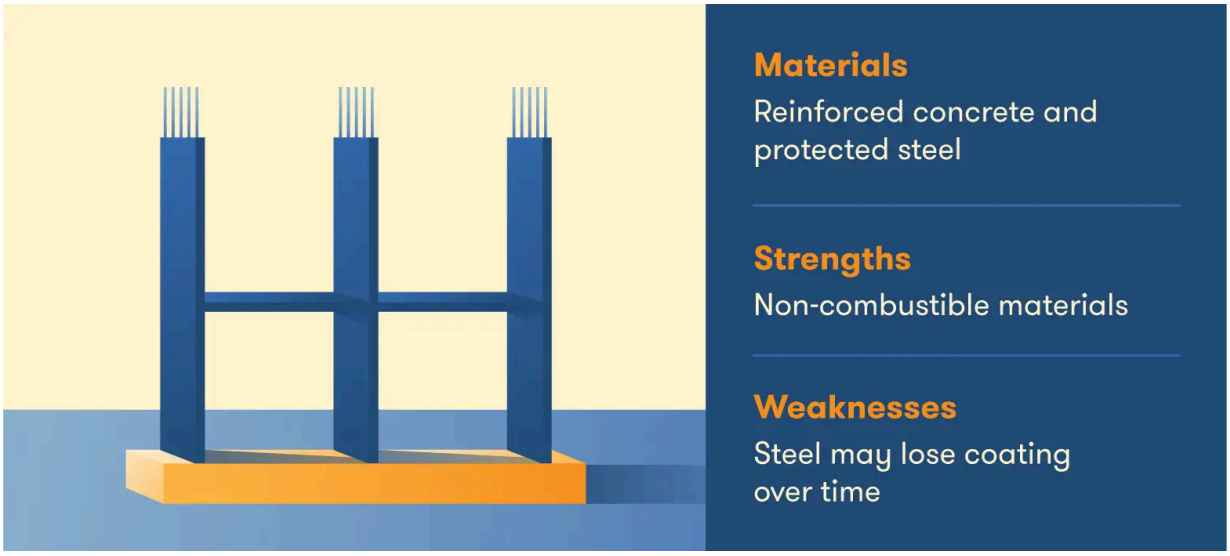
I. Construction Type Requirements

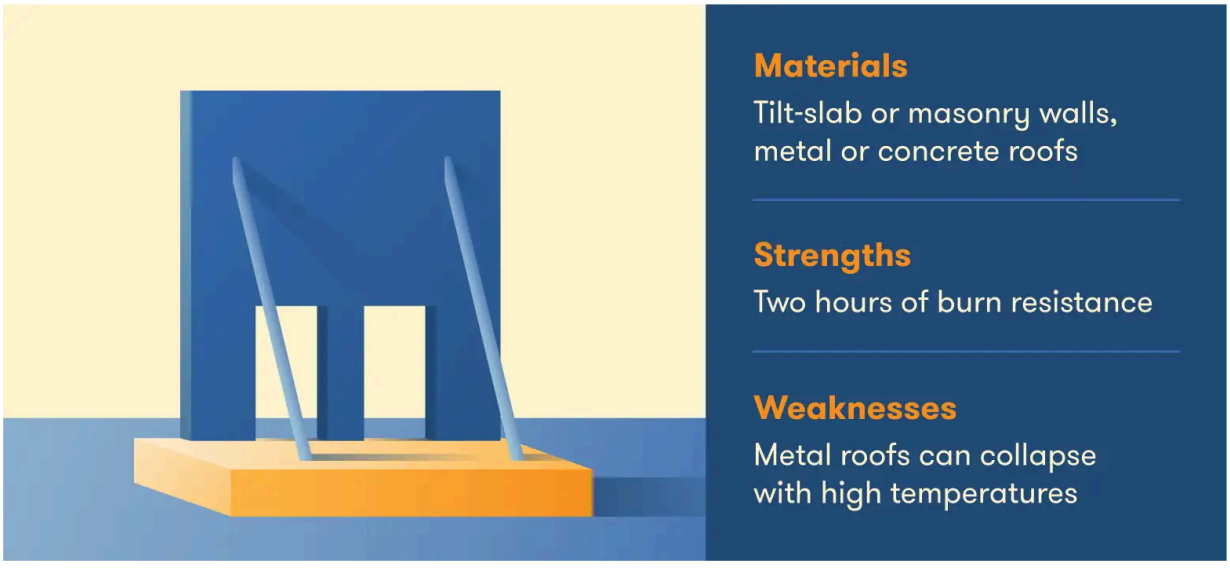
A **180-seat theater** is classified under **Assembly Group A-1**. The construction type is determined based on fire resistance ratings, building height, and occupancy limits.

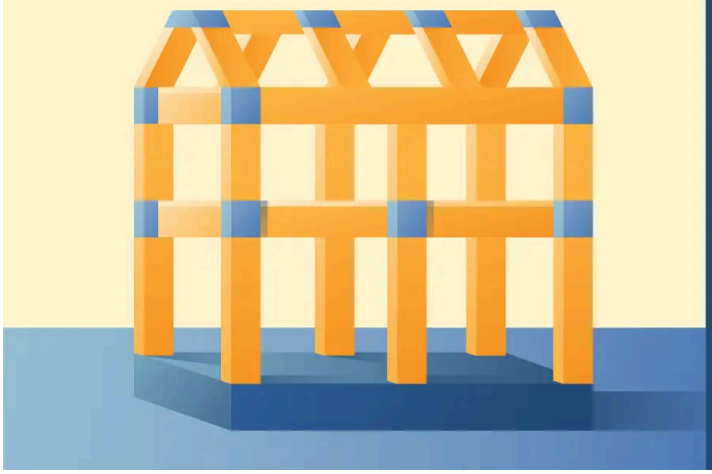
Permitted Construction Types

- **Type I & II (Non-combustible Materials – Steel, Concrete)**
  - *Usage*: Recommended for enhanced fire resistance and structural durability; typically used for larger theaters or multi-story buildings.
- **Type III (Non-combustible Exterior, Wood Interior)**
  - *Usage*: Allowed for small, single-story theaters if properly fire-rated; provides design flexibility while maintaining exterior protection.
- **Type IV (Heavy Timber – Fire-Resistant Wood Construction)**

    - *Usage*: May be permitted if designed with fire-resistant materials and protected wood elements; suitable for traditional or historical aesthetics.
- Type V (Wood Frame – Combustible Materials)
    - *Usage*: Generally not recommended due to fire risk; may be permitted for small theaters if size limitations and enhanced fire protection measures are met.







Materials
Large dimensional lumber

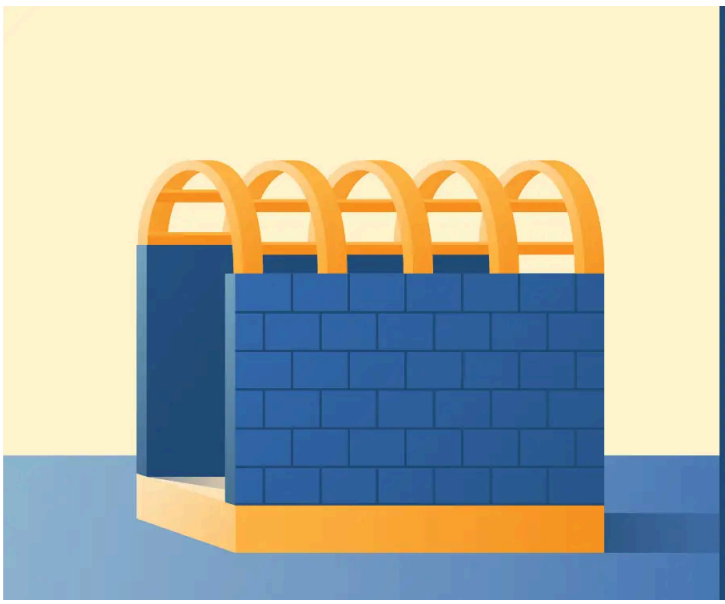
Strengths
Load-bearing walls may be non-combustible

Weaknesses
Metal connectors may fail at high temperatures

Materials
Natural or engineered wood

Strengths
Larger beams can help prevent building collapse

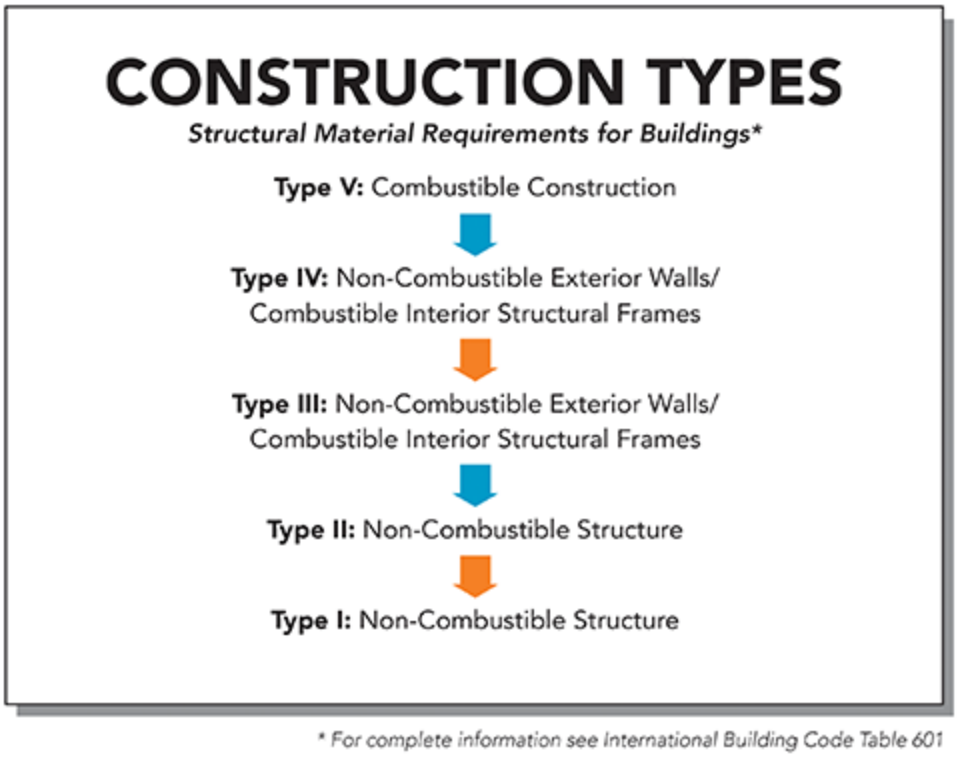
Weaknesses
Lightweight wood burns rapidly



Materials
Tilt-slab or masonry walls, wood roofs

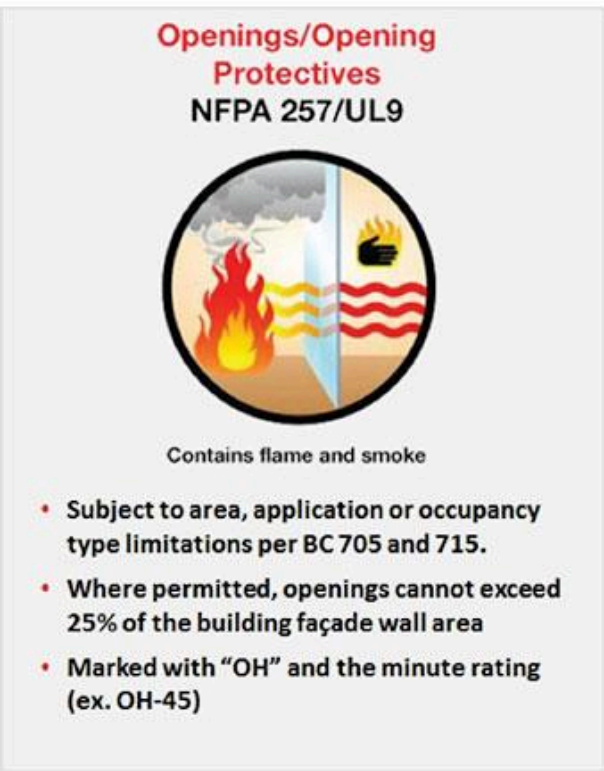
Strengths
Fire-cut joists prevent walls from collapsing

Weaknesses
Shared attic spaces and voids spread fire quickly



Fire Resistance Requirements

- Fire Sprinkler System
  - Required for all Assembly Group A-1 occupancies exceeding 100 occupants. Coverage includes the auditorium, backstage, and mechanical rooms.
- Fire-Rated Separations
  - *Between Stage and Audience*: A fire-resistant proscenium wall is required when a stage opening is present.
  - *Backstage/Storage*: Fire-rated partitions are necessary to prevent fire spread.
- Automatic Fire Alarm & Detection Systems
  - Must include smoke and heat detectors in key areas such as the auditorium, stage, lobbies, and exits.



II. Accessibility Requirements

The theater must comply with **New York State Building Code (Chapter 11)** and ADA Standards.

Accessible Routes & Entrances

- **Entrances:** At least one accessible entrance with a continuous route from parking, public transportation stops, and sidewalks.
- **Interior Circulation:** Hallways and passageways must maintain a minimum clear width of **36 inches.**
- **Ramps:** Required where level changes exist (*maximum slope 1:12, with handrails on both sides*).
- **Elevators:** Required if public areas are spread across multiple levels.

Seating Requirements

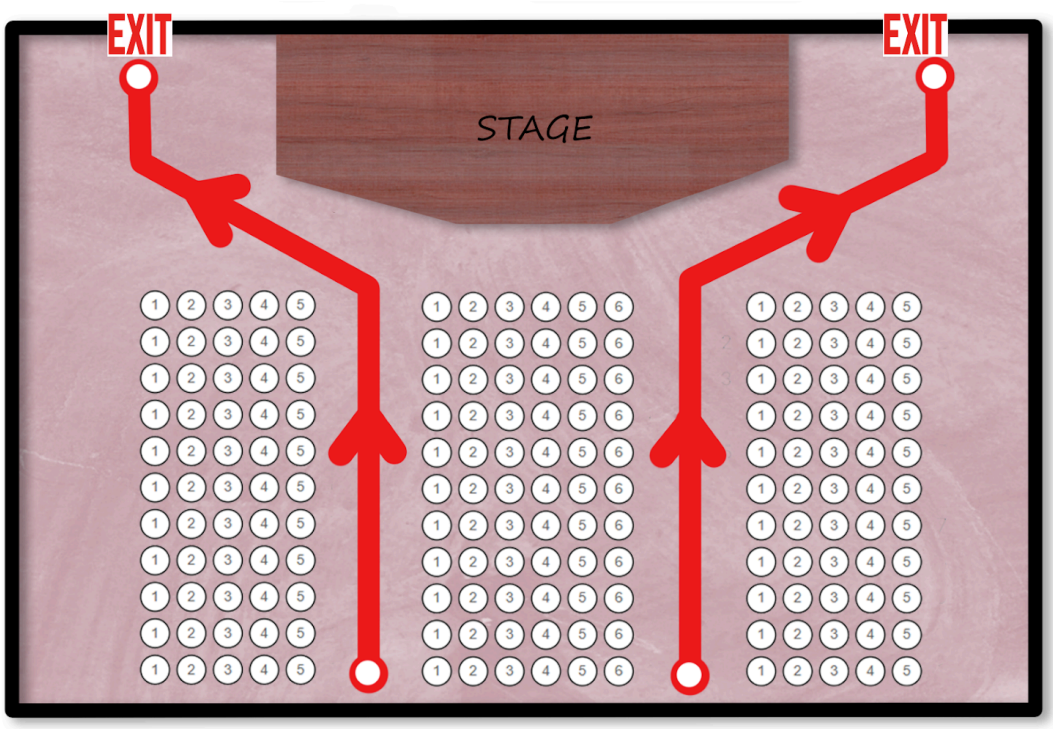
- Wheelchair-Accessible Seating
    - At least **4 designated wheelchair spaces** with adjacent companion seating.
    - Distribution across the auditorium to offer different viewing perspectives.
    - Some locations may include removable seats for flexibility.

Restrooms & Other Facilities

- Restrooms:
    - At least **one accessible restroom per gender per floor.**
    - **Mens:** 1 toilet and 1 urinal (additional facilities as occupancy increases).
    - **Womens:** 1 toilet (additional facilities as occupancy increases).
- **Doorways:** Minimum **clear width of 32 inches**; doors must include **lever-style handles**.

Assistive Listening Systems

- Required for fixed-seating assembly spaces to assist individuals with hearing impairments. The number of receivers should ensure adequate coverage based on total seating capacity.



III. Village Ordinances

(Farmingdale Master Plan & Architectural Review)

Zoning & Land Use

- **Location:** Downtown Mixed-Use **(D-MU)** District in **Farmingdale, NY.**
- **Requirements:**
    - Theater use is permitted.
    - **Zero-setback requirements** maintain the urban street wall.
    - Façade and signage must adhere to the **Village of Farmingdale Design Guidelines.**

Architectural Review & Building Heights

- **Building Height:** Maximum **36 feet** (*approximately 3.5 stories*) in the Central Sub-Area, with possible limited extensions subject to approval.
- **Façade Improvements**: May be required by the **Architectural Review Board (ARB)** to maintain historical consistency.

Pedestrian & Accessibility Considerations

- Sidewalk improvements and **high-visibility crosswalks** are required for pedestrian safety, especially near **Main Street** and other key thoroughfares.

IV. County Ordinances

(Fire Marshal & 239F Compliance – Nassau County)

Fire Marshal Regulations

- Must meet **Nassau County fire safety codes**, including:

- Proper **egress routes**.
- **Fire suppression systems** and **emergency lighting**.
- **Adherence to NFPA 101 Life Safety Code** for safe exit, fire-resistance ratings, and emergency signage.

239F Compliance (County Planning Review)

- Applicable to projects impacting **county roads, drainage, or environmental conditions.**
- **Review Focus:**
  - Traffic circulation and parking layout.
  - Stormwater management.
  - Emergency vehicle access.

V. Conclusion

The **180-seat theater project** must comply with a combination of **state, county, and village regulations** to ensure:

- **Fire-Resistant Construction**: Appropriate for an **Assembly A-1** occupancy.
- **ADA-Compliant Accessibility:** Including **seating, restrooms, and circulation routes.**
- **Architectural Consistency:** With the **Farmingdale Downtown Mixed-Use District.**
- **Fire Safety & Emergency Planning**: According to **Nassau County** and **NFPA 101 standards.**

VI. Detailed Design Specifications

Hypothetical Design for a 3,000 SF Rectangle

- **Exits: 2 exits** within the room, meeting the **minimum exit length** requirements.
- **Waiting Space: 3 square feet per individual.**

Stairs

- **Minimum Width**: 42 inches
- **Maximum Width:** 96 inches
- **Tread Depth:** Minimum **11 inches**
- **Riser Height**: Maximum **7 inches**

Bathrooms

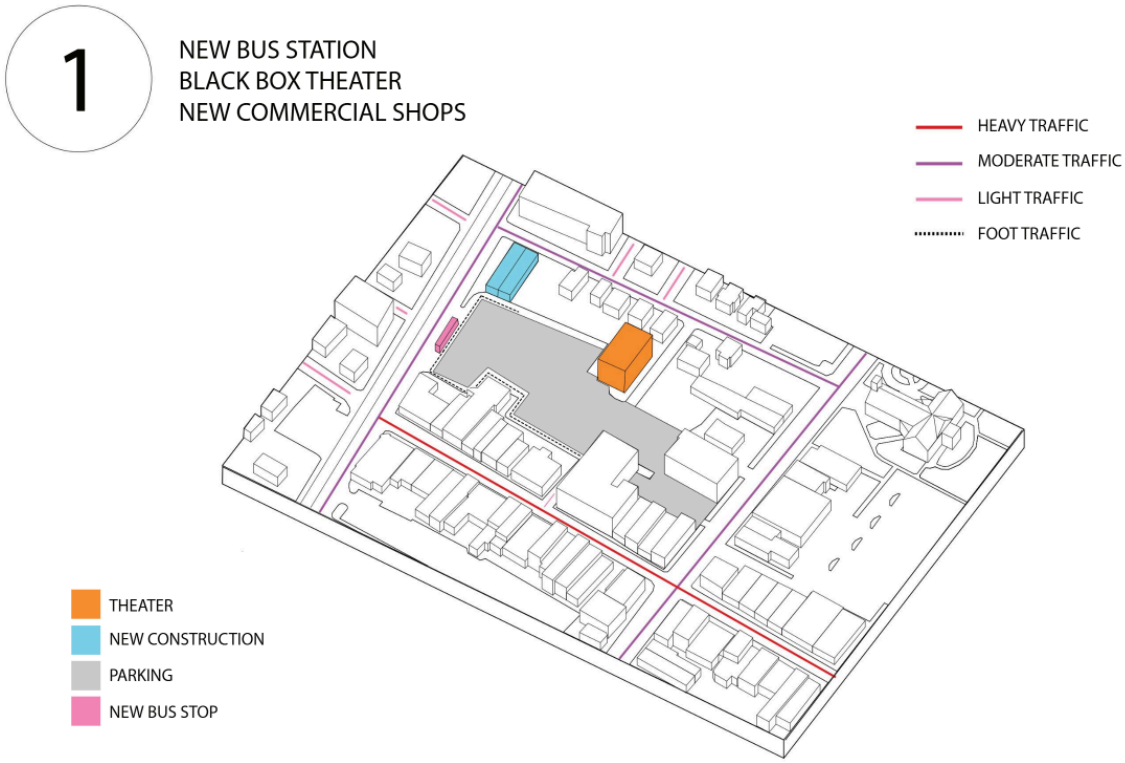
- Female Restrooms:
    - **1 toilet per 40 occupants** (*e.g., 3 toilets*)
    - **1 sink per 75 occupants** (*e.g., 2 sinks*)
- Male Restrooms:
    - **1 toilet per 75 occupants** (*e.g., 2 toilets*)
    - **1 sink per 200 occupants** (*e.g., 1 sink*)

Means of Egress (For a 180-Seat Theater)

- Total Exits: 2 exits
    - Must be in proximity to the front row and no more than **25 feet behind the first row.**
- Travel Distance: Maximum 250 feet
- Exit Doors:
    - **Minimum width of 36 inches**
    - Must **swing outwards**
- Emergency Exit Lighting:
    - Clearly visible in **aisles, corridors, and at exit doors.**

Theoretical Future of Farmingdale

By integrating thoughtful **urban design principles** and **community-driven programming**, this project can serve as a cornerstone in Farmingdale's **next chapter of growth and innovation.**



2

REDUCTION IN PARKING LOT
ADDITION OF GREEN SPACE
EXPANSION OF NEW SHOPS

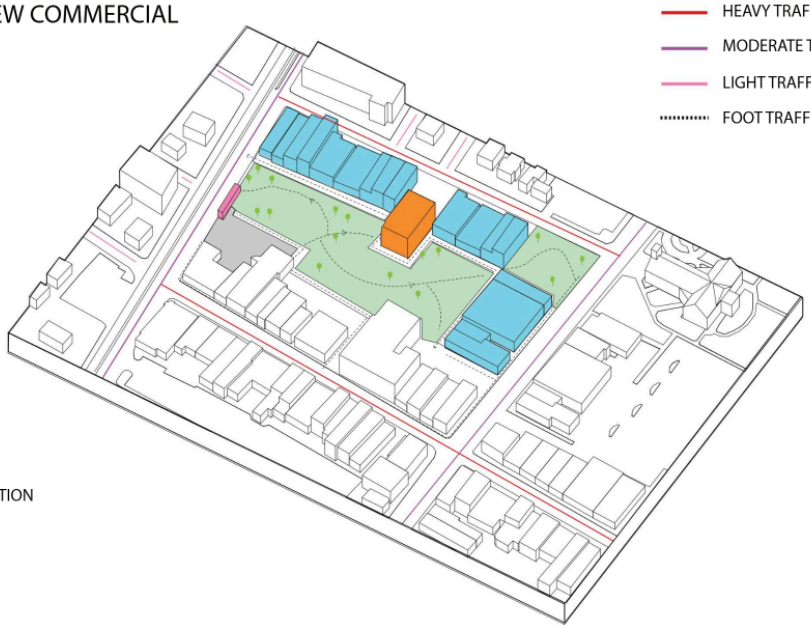
HEAVY TRAFFIC
MODERATE TRAFFIC
LIGHT TRAFFIC
FOOT TRAFFIC

THEATER
NEW CONSTRUCTION
PARKING
NEW BUS STOP

3

REDUCTION IN PARKING LOT
COMBINATION OF GREEN SPACES
INCREASED CIRCULATION
NEW COMMERCIAL

HEAVY TRAFFIC
MODERATE TRAFFIC
LIGHT TRAFFIC
FOOT TRAFFIC



THEATER
NEW CONSTRUCTION
PARKING
NEW BUS STOP