

# PALM BEACH KENNEL CLUB

## REdevelopment and TRANSIT PROPOSAL

Evana Ahmed, Jonathan Cady,  
Millie Rivera, Shengjie Xie  
*Graduate Students*

Wen Zhang, Ph.D.  
*Post-Doctorate*

John L. Renne, Ph.D., AICP  
*Professor*

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and Regional Planning



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# EXECUTIVE SUMMARY

The Palm Beach Kennel Club (PBKC) redevelopment initiative aims to convert the site into a lively, mixed-use district that takes advantage of its location adjacent to Palm Beach International Airport (PBIA) and neighboring urban centers. A vision for the site includes addressing the community's critical needs: housing, employment, and mobility, and creating a sustainable, connected, and economically vibrant site. The site is located at the intersection of Congress Avenue and Belvedere Road, which places it close to PBIA, downtown West Palm Beach, and the numerous residential and commercial uses in the immediate vicinity, making the site ideally suited for redevelopment. Its legacy as a regional entertainment venue is also highlighted through historical analyses, and conditions today indicate the ability to fulfill the changing demands of the community.

The concept of the redevelopment plan is to establish a pedestrian-friendly and inclusive gateway district, adding workforce housing, commercial space, and recreational elements that serve residents, airport staff, and visitors equally. Biophilic design elements, like rain gardens, green roofs, and permeable pavements, help cool the site, manage stormwater, and increase the site's livability. For connectivity, the project puts forth an ART (Autonomous Rail Rapid Transit) system, bike lanes, and pedestrian pathways to wean people off utilizing private vehicles and increase mobility.

There are principles of complete streets and transit-oriented development (TOD) as well as best practices of urban design in the planning framework.

Wide sidewalks, vibrant streetscapes, and an active frontage form the key design features of spaces that will foster community engagement. Including green space, such as pocket parks, community gardens, and a linear park, will increase environmental resilience and public health. Strategies for resilience planning also address sea level rise and flooding risks, making the site viable in the long term.

Four development scenarios were evaluated as part of the planning process: Town mixed-use, village mixed-use, industrial/office/residential mixed-use, and city mixed-use. The industrial/office/residential mixed-use scenario is the most feasible for long-term development as it balances economic growth, environmental sustainability, and social equity. A range of residential units, industrial and office spaces, and public amenity spaces are part of this scenario, generating job creation, economic growth, and moderate environmental impacts.

As a redevelopment project for PBKC, this represents a transformational opportunity for this area to be redefined as a model of sustainable urban development in Palm Beach County. The site will improve the quality of life for the residents by integrating innovative design, safe and fluid housing, and resilient infrastructure, and act as a regional hub for economic and cultural activities by incorporating the creative design and safe and fluid housing. This is consistent with West Palm Beach's desire for walkable, connected, and sustainable urban growth. Through careful planning, a space that had been underutilized will become part of this new, thriving, and ready community.

# THE VISION



**FIGURE 1.1 RENDERING OF MIXED-USE DEVELOPMENT**

The goal of the project is to transform the corridor into a contemporary, mixed-use location that enhances connectivity, feels like a community asset, blends in with local culture and amenities, and serves as a gathering spot for locals and tourists. The subject site is located near the Palm Beach International (PBI) Airport, at the intersection of Congress Avenue and Belvedere Boulevard, a high-traffic arterial roadway. The project's vision is key to creating a pleasant, pedestrian-friendly, and inclusive environment that benefits the residents while also embracing visitors.

The site's prominent position as a regional gateway presents both benefits and challenges for locals, businesses, and tourists. With its proximity to PBI, this corridor is ripe with opportunity to

become a dynamic, multipurpose area that caters to both locals and visitors by offering diversified uses. To showcase West Palm Beach's reputation as a hub for innovation, tourism, and business, the development will incorporate residential, commercial, and public spaces (Figure 1.1). Based on community demands and sustainable urban development standards, the design will prioritize walkability, public transportation access, and sustainable infrastructure.

The project goal is to help strengthen local economic opportunities and deliver essential services while also contributing to urban connectivity and putting forth the principles of sustainable design. This corridor is ideally situated for a vibrant 'gateway district' in high traffic and near an airport on Congress Avenue. The retail

spaces, restaurants, and even cafés or coworking offices would all be considered commercial and would cater to travelers and the occupation of residents. A vibrant streetscape will be created because of the development's prominent location, heavy foot traffic, and the ease of access it offers.

These residential units will be aimed at youthful airport staff and other local workers for high-quality, traffic-free, affordable living opportunities near relevant services and workplaces. As there is a great need for affordable housing in West Palm Beach, a percentage of the residential units would be reserved as workforce housing so that those who work hard to help fuel the economy of their city can pay to live there as well.

The project vision encompasses environmental sustainability components, including the integration of biophilic design concepts like rain gardens, permeable pavements, and green roofs. Concepts that will mitigate the urban heat island effect and manage stormwater. Additionally, the development will prioritize energy efficiency by incorporating solar panels and promoting environmentally friendly construction materials to reduce its carbon footprint. In order to improve mobility and alleviate traffic congestion, the city will establish bicycle lanes and pedestrian pathways that will connect dispersed areas of the site. This will promote alternative modes of transportation and, as a result, decrease dependence on the automobile.

The goal of this corridor project is to pave the way for a development that can support itself financially, socially, and ecologically.

The project aims to draw in residents who will live, work, and play in the community, setting a standard for future developments in West Palm Beach. Careful planning and execution went into this development, and it will be used as an example for other urban projects in West Palm Beach. In addition to improving the city's aesthetics, it will also boost the local economy and the standard of living for residents.



**FIGURE 1.2 ASPIRATIONAL RENDERING**

The subject site is the former Palm Beach Kennel Club site and is currently zoned for multiple designations, such as commercial, residential, public ownership, and industrial use. It also features regional visibility as it is immediately south of Palm Beach International Airport and east of Congress Avenue, a primary arterial roadway. Despite this, the site has infrastructure challenges: few pedestrian connections to surrounding areas, aging utilities, and inadequate stormwater management systems.

Furthermore, the historical import and surrounding context of high-volume traffic present unique forms of redevelopment. These conditions set the stage for considering thoughtful approaches that strengthen deficiencies while capitalizing on a vibrant mixed-use community platform that increases connectivity, generates economic opportunities, and provides sustainable urban development.



**FIGURE 1.3 RENDERING OF PROPOSAL**

# METHODOLOGY



## ANALYSIS

### **Planning and Subject Area Context**

An analysis of the corridor and site will identify issues currently existing. The current and future land use designations, zoning designations, and other attributes will aid in determining the final plan.

- Historical Context
  - Historical Aerials
- Land Use and Zoning
- Future Land Use
- Employment
- Environmental Context
- Health
- Parks & Conservation
- Transit Context
- Sea Level Rise

### **Urban Design Context**

Proposes elements based on Reid Ewing's and Keith Bartholomew's "Pedestrian and Transit-Oriented Design."

- Essential Features: Elements that are necessary.
- Highly Desirable Features: Not essential but help add character.
- Worthwhile Features: Benefit and encouragement, but not at all essential.

### **Biophilic Design Analysis**

Incorporate elements from Peter Newman,

Timothy Beatley, and Heather Boyer's "Resilient Cities: Overcoming Fossil Fuel Dependence."

- Environmental Features
- Natural Shapes and Forms
- Natural Patterns and Processes
- Light and space

## PLANNING

### **Scenario: UrbanFootprint Analysis**

Scenario data is utilized to make an informed decision on the most appropriate development type for the site.

### **Transportation: Case Study Analysis**

Analyzes case studies in similar or in relation to the subject site and surroundings.

## FINAL PROPOSAL

### **Urban Design Guidelines**

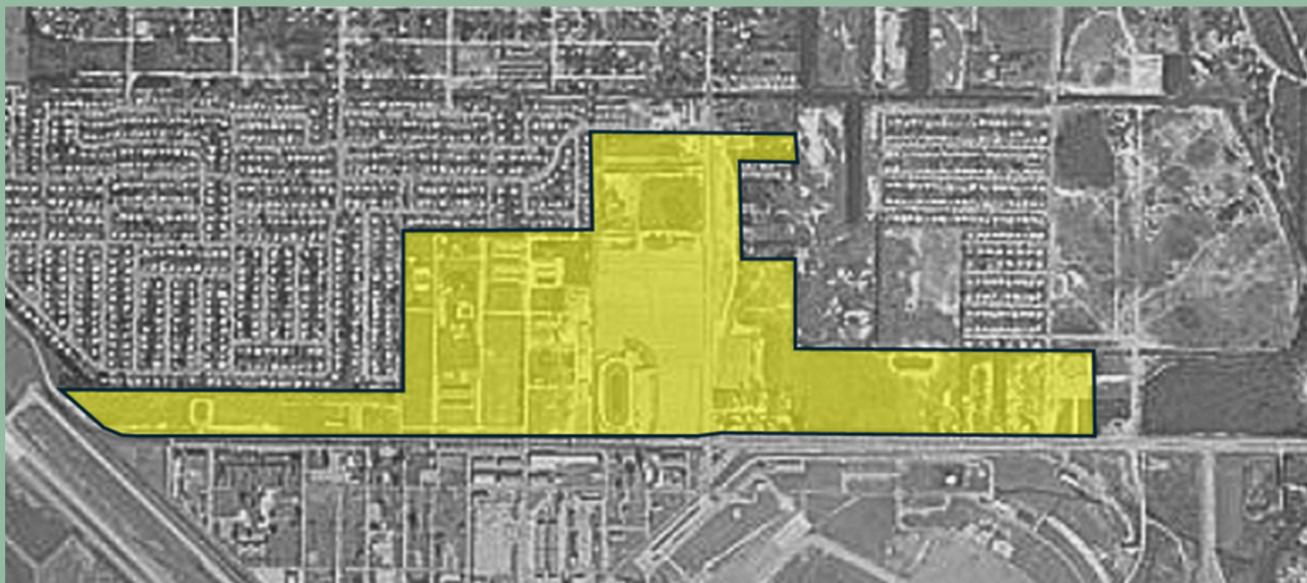
Proposes architectural styling for development within the site.

### **Urban Planning Guidelines**

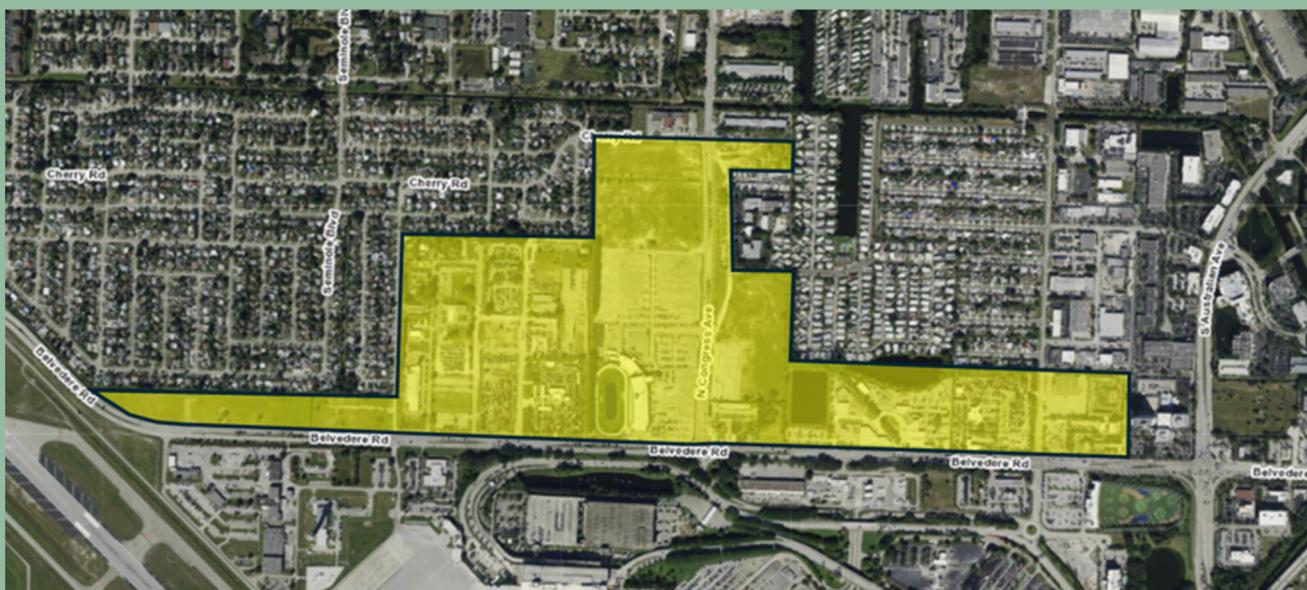
Project compatibility with the City of West Palm Beach comprehensive plan, zoning designation and future land use designation.

# PLANNING ANALYSIS

## A. HISTORICAL ANALYSIS



**FIGURE 2.1 SUBJECT SITE 1967**



**FIGURE 2.2 SUBJECT SITE 2023**

The subject site (Figure 2.1 and 2.2) surrounds the Palm Beach Kennel Club (PBKC), located at 1111 Congress Avenue in West Palm Beach. PBKC is a staple to the history and economic development of Palm Beach County, especially during the era of greyhound racing. Opening in 1932,

PBKC has been a magnet for tourists throughout the United States.

The O.M. Carmichael family constructed the PBKC complex, which hosted approximately 4,000 people during the first opening, which served as a catalyst



**FIGURE 2.3 ONE OF FINAL DOG RACES AT DERBY LANE**

for a significant surge in attendance. The debut racing season lasted 38 days, with 72,585 spectators and \$614,538 in wagers (equivalent to \$14,159,673.23 in 2024). It quickly gained popularity and became a rapidly growing urban area, there has been tremendous interest in the future uses of this area, particularly the PBKC site. In the middle of the 20th century, the site was sold multiple times.

In 1953, John Boggiano acquired the club and operated it until 1970. During this period, the facility underwent numerous renovations, including the installation of five televisions in the tribune area, which was considered modern at the time, shortly after the conclusion of World War II. Greyhound racing (Figure 2.3) was a vibrant part of PBKC until concerns about animal welfare grew large enough for the county to revoke their license. Greyhound racing was part of a wider movement over animal rights. Subsequently, the track has remained closed for four (4) years, and the site's utilization and function have changed quite significantly.

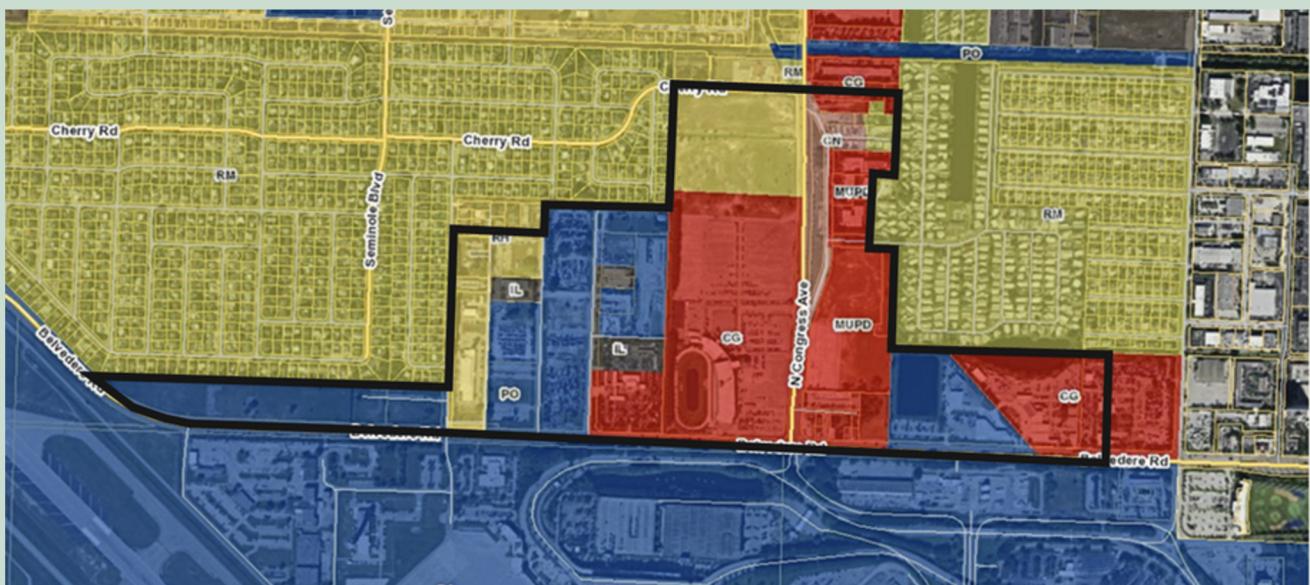
The subject site is centrally located near highly frequented destinations in Palm Beach County. The site is south of the Palm Beach Outlets, southwest of downtown West Palm Beach, north of Palm Beach

In the most recent discussions, discussions regarding the reimagining of the PBKC property have resulted in proposals that prioritize the property's modernization in accordance with the evolving demographics and requirements of the region. A larger trend of growth throughout Palm Beach County is evident in the increased demand for both residential and commercial space, as well as the rising property values in nearby communities. This presents an opportunity for developers to reshape the site to better meet the community's needs and incorporate mixed-use development of residential, commercial, and entertainment uses. Incorporating elements into the redevelopment that celebrate the site's history as a longstanding entertainment destination could also be a way to capitalize on its historical significance.

## B. LAND USE, ZONING, FUTURE LAND USE, AND CONTEXT



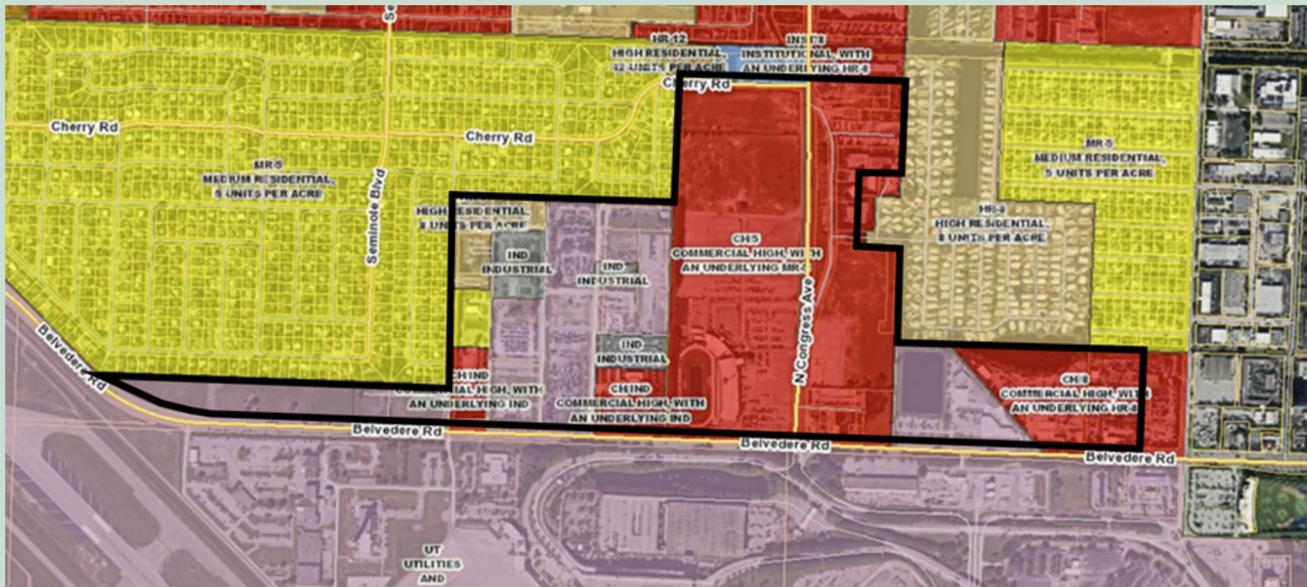
**FIGURE 2.4 SATELLITE VIEW**



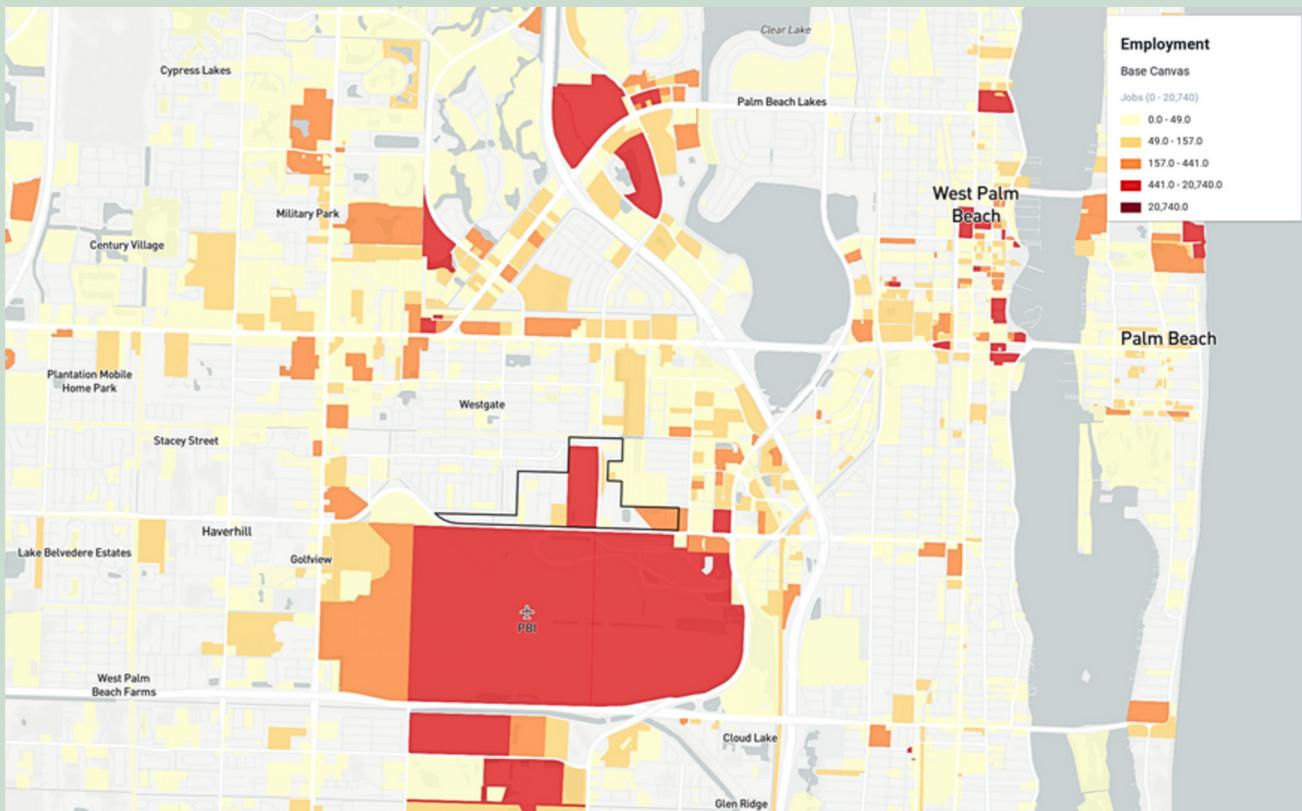
**FIGURE 2.5 ZONING MAP**

The zoning designations in the subject site (Figure 2.5) encompass several uses. Among the uses depicted on figure 2.5 are commercial, mixed-use, medium- and high-density residential, and industrial. Among the site's adjacent uses are industrial, commercial, medium- and high-density residential, as well as utilities and transportation. The utility and transportation use encompass the PBIA.

The FLU designations for the subject site encompass commercial, with underlying residential and industrial land uses (Figure 2.6), promoting the integration of mixed uses, including commercial, residential, and recreational walkability, alongside industrial, office, and transit-oriented development components. The adjacent land uses comprise utilities, transportation, and various residential classifications.



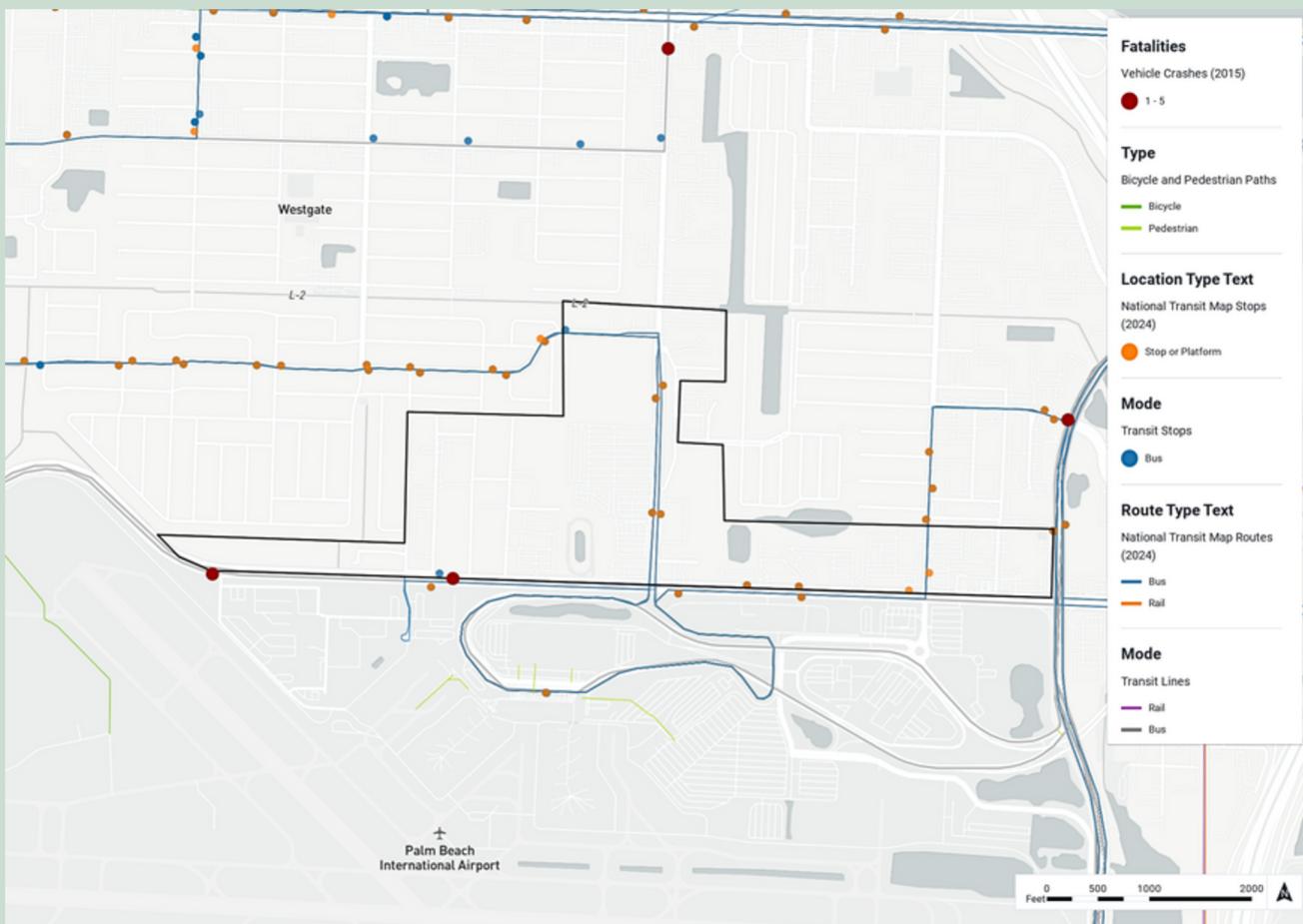
**FIGURE 2.6 FUTURE LAND USE MAP**



**FIGURE 2.7 EMPLOYMENT MAP**

Figure 2.7 illustrates the current employment status of the subject site, with job placements varying from 0 to 666. The employment density observed within the study area reveals clearly defined zones characterized by a significant concentration of jobs, which are

presumably associated with commercial centers or principal employment hubs. The presence of high-density employment zones plays a crucial role in shaping daily traffic patterns, thereby influencing adjacent residential communities and the capacity of neighboring infrastructure.



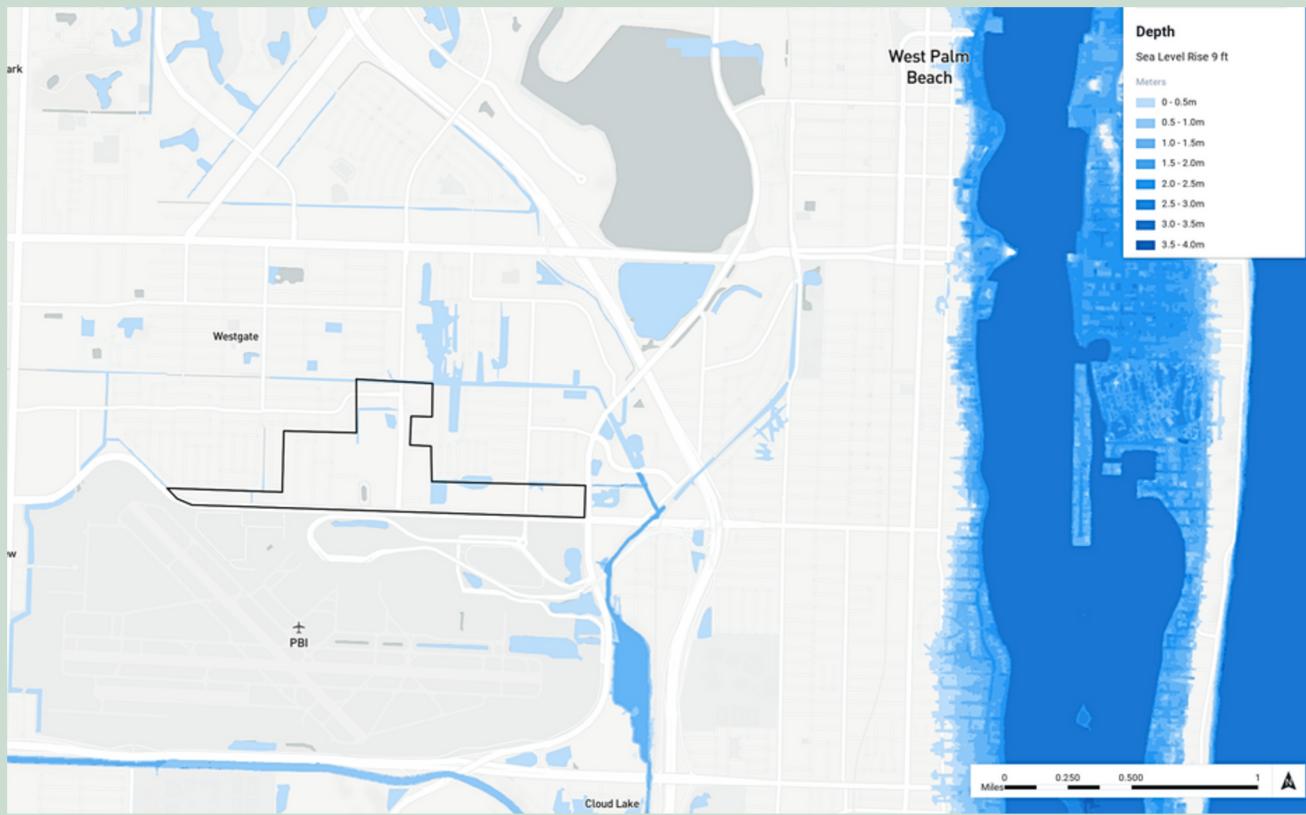
**FIGURE 2.8 TRANSPORTATION MAP**

The spatial distribution of employment reflects the prevalent types of industries within the region, which may influence local economic resilience. The presence of high employment density may signify regions where the demand for housing, transportation, and amenities is elevated, thereby highlighting the necessity for strategic planning to address these pressures while ensuring the preservation of a balanced community.

As illustrated in figure 2.8, the study area lacks the presence of designated bicycle lanes, which may limit options for cyclists and diminish the likelihood of active transportation within the immediate area. Nonetheless, a clearly established network of bus routes links essential residential and employment areas,

providing a convenient public transportation alternative for local inhabitants. Furthermore, the region has easy access to rail transportation and the Palm Beach International Airport, which improves regional connection and offers practical choices for longer-distance travel. The distribution of car crashes from prior years highlights opportunities for safety improvements by identifying intersections and routes that may be accident-prone.

Active transportation is supported by a well-developed infrastructure for bicyclists and pedestrians, but if popular routes for walking or bicycling are close to high-crash zones, safety concerns may discourage use. Targeted interventions can be implemented to enhance road user safety by concentrating on these identified safety hotspots.

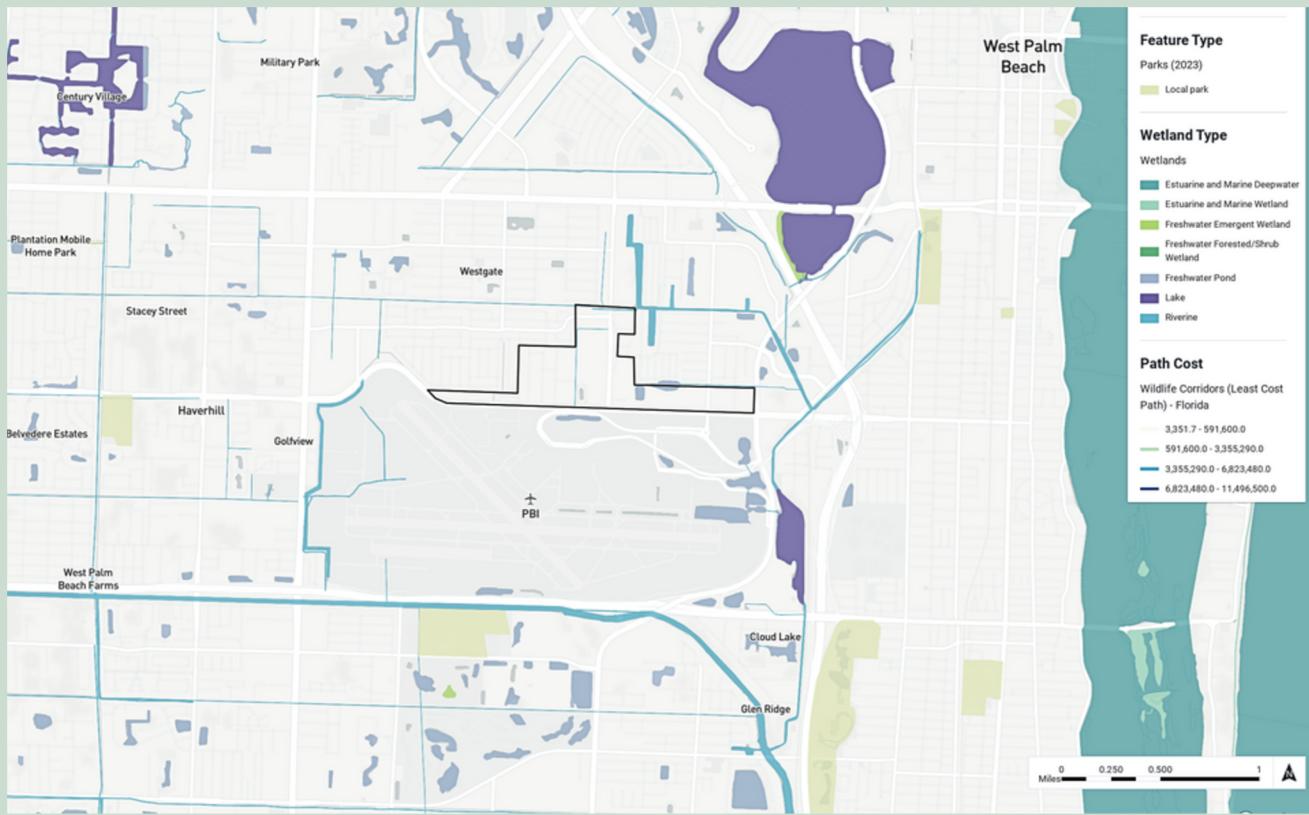


**FIGURE 2.9 SEA LEVEL RISE MAP**

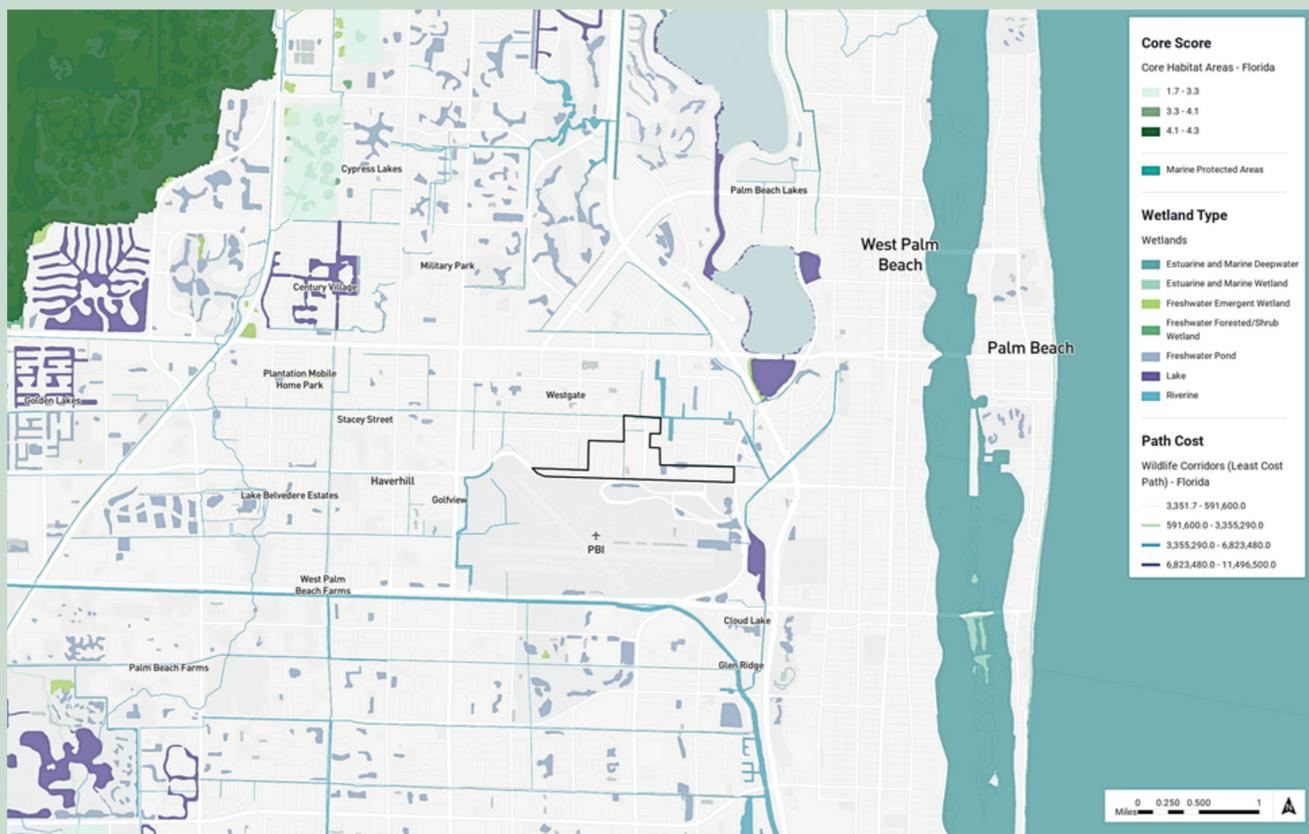
Low-lying communities in the study area face severe hazards from a 9-foot sea-level rise. Residential, commercial, and infrastructure zones near the ocean are prone to floods. Sea-level rise, as depicted in figure 2.9, threatens property, infrastructure, the local economy, and quality of life. Adapting buildings to withstand flooding, improving drainage, and investing in resilient infrastructure can reduce these effects. These estimates may also steer growth away from high-risk areas, creating a more sustainable and disaster-resistant urban architecture.

The study area's parks and open spaces promote the residents' mental and physical health. Parks improve biodiversity, cool cities, and provide community spaces. Figure 2.10 indicates some locations may lack green space, stressing the need for new parks or green corridors to increase connection. Urban

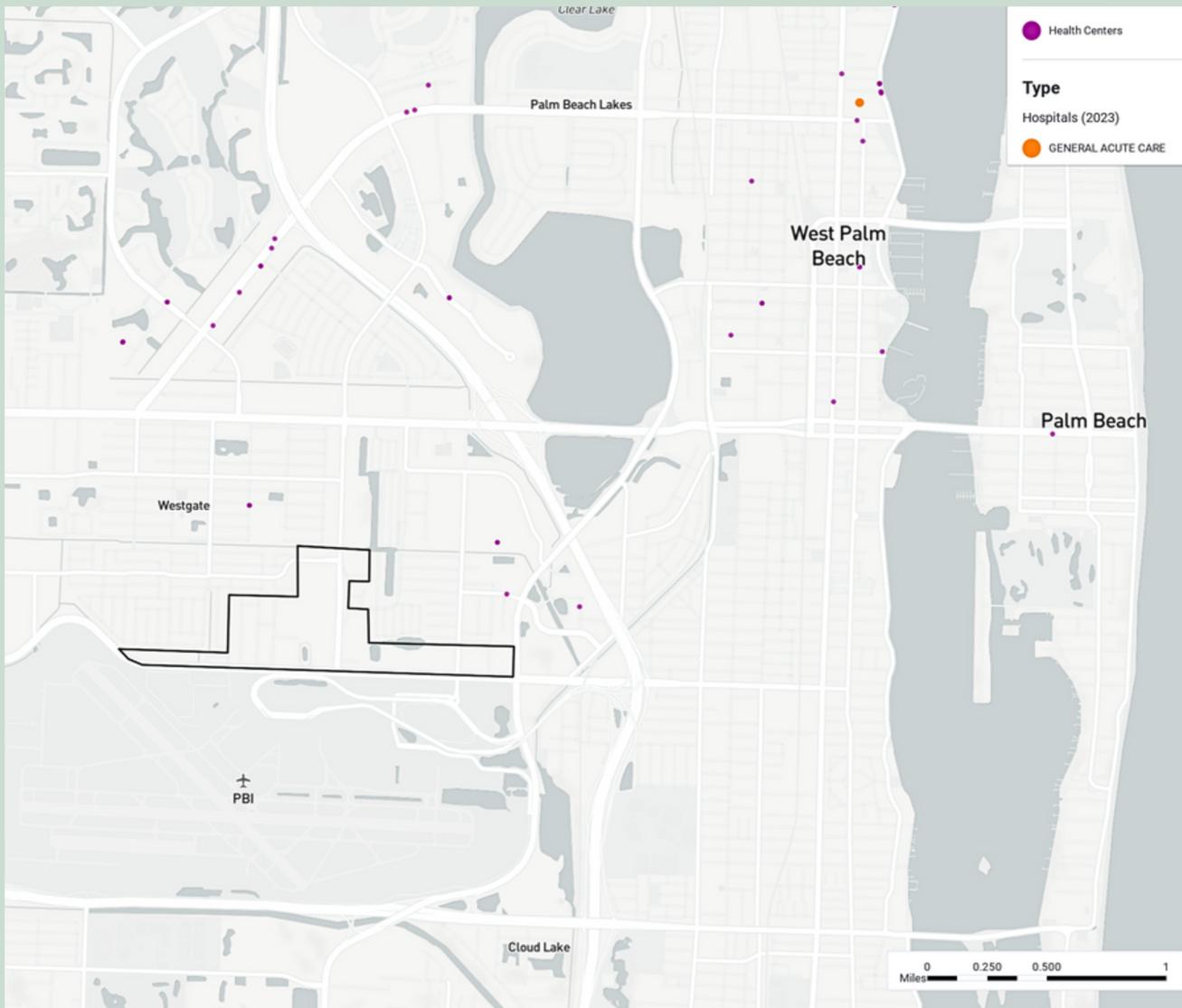
conservation easements and protected areas conserve fragile habitats and boost ecological resilience, balancing urban growth and environmental management. The study area includes diverse environmental features, such as coastal habitats, marine protected areas, and wetlands, which play a critical role in regional ecology and climate resilience. Wetlands, for example, act as natural flood buffers, absorb pollutants, and provide habitats for wildlife, while coastal and marine areas support biodiversity and recreation. However, these sensitive areas face pressures from nearby development and potential environmental degradation. Policies that limit or carefully regulate development near these zones can help protect their ecological functions. Additionally, creating buffer zones and enhancing habitat connectivity can promote biodiversity and climate adaptation.



**FIGURE 2.10 PARKS AND OPEN SPACE MAP**



**FIGURE 2.11 NATURAL RESOURCES AND ENVIRONMENT**



**FIGURE 2.12 HEALTH INDICATOR MAP**

Healthcare facilities, including hospitals and urgent care centers, are distributed across the study area, indicating accessibility to essential medical services for residents. Proximity to healthcare is a critical factor for community health, especially for vulnerable populations such as the elderly or those with limited mobility. However, disparities in healthcare access may exist, with certain neighborhoods situated further from these facilities, potentially creating health inequities. Analyzing these patterns can support the development of more equitable healthcare infrastructure, such as establishing new health clinics in

underserved areas or enhancing public transit options to improve access to existing facilities.

There were several issues identified during the subject site analysis. According to Pedestrian and Transit Oriented Design, results of the analysis included no evidence of Natural Patterns and Process or Environmental Features. There was a lack of spatial harmony, landscaping, and botanical motif. Due to the lack of landscaping and street infrastructure, there is also an excess of light and shadow. See below for more issues with illustrative evidence.



**FIGURE 2.13 NE BELVEDERE RD**

Figure 2.13 depicts a lack of active building frontage, public art, streetscaping, and excess sunlight.



**FIGURE 2.14 INTERSECTION**

Figure 2.14 depicts a lack of active building frontage, public art, streetscaping, and excess sunlight.



**FIGURE 2.15 W CONGRESS AVE**

Figure 2.15 depicts a lack of complete street concepts and active street infrastructure.



**FIGURE 2.16 NW BELVEDERE RD**

Figure 2.16 depicts a lack of active building frontage and minimal street scaping.

## C. TRANSIT AND COMPLETE STREETS ANALYSIS

Complete Streets is a comprehensive approach to road planning, design, and operation that prioritizes the safety and efficiency of all users in the transportation network. Complete Streets strategies are implemented in different ways depending on the specific characteristics of a community and are intended to facilitate safe and accessible transportation for all individuals. This project will recommend several components, including sidewalks, cycling lanes, public transportation stations, crossing possibilities, median islands, accessible pedestrian signals, curb

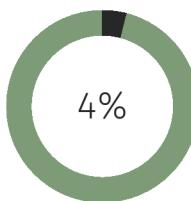
extensions, traffic calming measures, streetscape enhancements, and landscape treatments.

The current transit infrastructure in the subject area is deficient in multiple aspects. This is especially concerning considering there are over 1,252 commuters in the subject area (AllTransit, n.d.). The following charts present statistical data pertaining to the transportation aspect of the site. Transit scores derived from multiple sources to provide a comprehensive perspective on transportation.



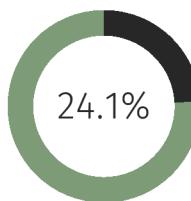
### TRANSIT PERFORMANCE

4.8/10  
According to AllTransit



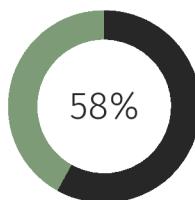
### TRANSIT CONNECTIVITY

According to AllTransit,  
the City is lacking  
immensely in transit  
connectivity.



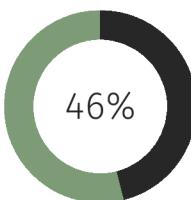
### TRANSIT COST

According to AllTransit,  
households near transit  
pay 24.1% of their  
income towards  
transportation costs.



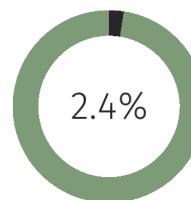
### BIKE SCORE

This area is somewhat  
bikeable.



### WALK SCORE

This area has an average  
walk score.



### COMMUTE BY WALKING

According to AllTransit,  
2.4% of workers who live  
within ½ mile of transit  
and commute by walking

## D. CENSUS ANALYSIS

This section presents a detailed analysis of demographic and housing characteristics within the study area surrounding PBKC. The analysis draws on U.S. Census data, Esri Business Analyst, and AARP Livability Index to present an overview of the subject area to include key metrics such as population, housing units, race and ethnicity, age distribution, poverty rate, commuting patterns, and vehicle ownership. By examining these elements, the report provides insights into the social, economic, and infrastructural dynamics of the study area, offering a foundation for informed planning and policy decisions.

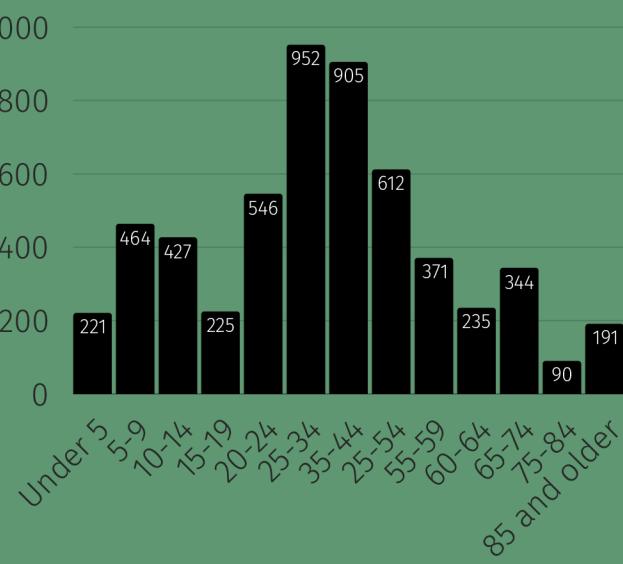
### POPULATION

The population of Census Tract 30 totals 5,583 as of 2024, figure 2.17 depicts the Bureau of Economic and Business Research's population projection 2025 through 2050 for Palm Beach County. These projections would obviously have effects on the subject area. Figure 2.16 depicts the gender distribution, which indicates a slightly higher proportion of males. While figure 2.18 demonstrates the age distribution within the subject area. The population demonstrates a concentration in among individuals between the age of 25-34 year old at a rate of 17.1% of the total population. This is followed by the 35-44 year age group, with 16.2%. The smallest representation comes from the 75-84 age group, contributing only 1.6%. The age distribution highlights a predominantly youthful demographic, as depicted in the bar chart. These findings suggest that the study area has a relatively young population with a balanced gender distribution, which may influence planning decisions regarding housing, transportation, and community facilities.

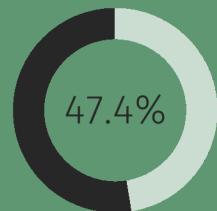
**FIGURE 2.17 COUNTY POPULATION  
2025-2050**



**FIGURE 2.18 AGE DISTRIBUTION**



**POPULATION**  
5,583



**GENDER DISTRIBUTION**  
47.4% reflects the female population while males make up 52.6%

47.4% reflects the female population while males make up 52.6%

47.4% reflects the female population while males make up 52.6%

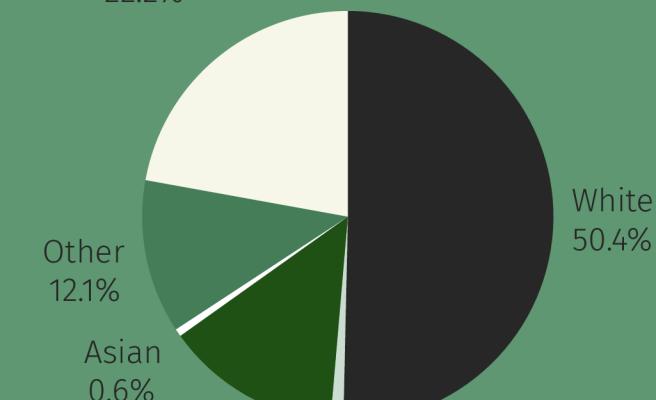
## RACE

The racial composition of the study area highlights a predominately White population, comprising 2,800 individuals (50.2%), which represents the largest ethnic group (Figure 2.19). However, out of the total population of 5,583,325.6 (58.3%) are Hispanic or Latino (of any race). This reflects an increasing prominence of Hispanic or Latino people within the subject area and region.

Figure 2.20 provides a historical change in density and the significant growth of the Hispanic or Latino population from 1970 to 2022. This trend has played a pivotal role in shaping the cultural and demographic profile of the area. The Hispanic population in the study area has shown a remarkable increase over the past five decades. In 1970, the Hispanic population was just 177 individuals, representing 2.0% of the total population. Over the years, the Hispanic population was reflecting a steady rise, with the growth accelerating significantly after 2000, with the Hispanic population climbing to 3,537 individuals (30.7%). This upward trend continued through 2010 and peaked in 2020 at 7,520 individuals (62.5%). This dramatic growth highlights the increasing demographic

Two or More Races

22.2%

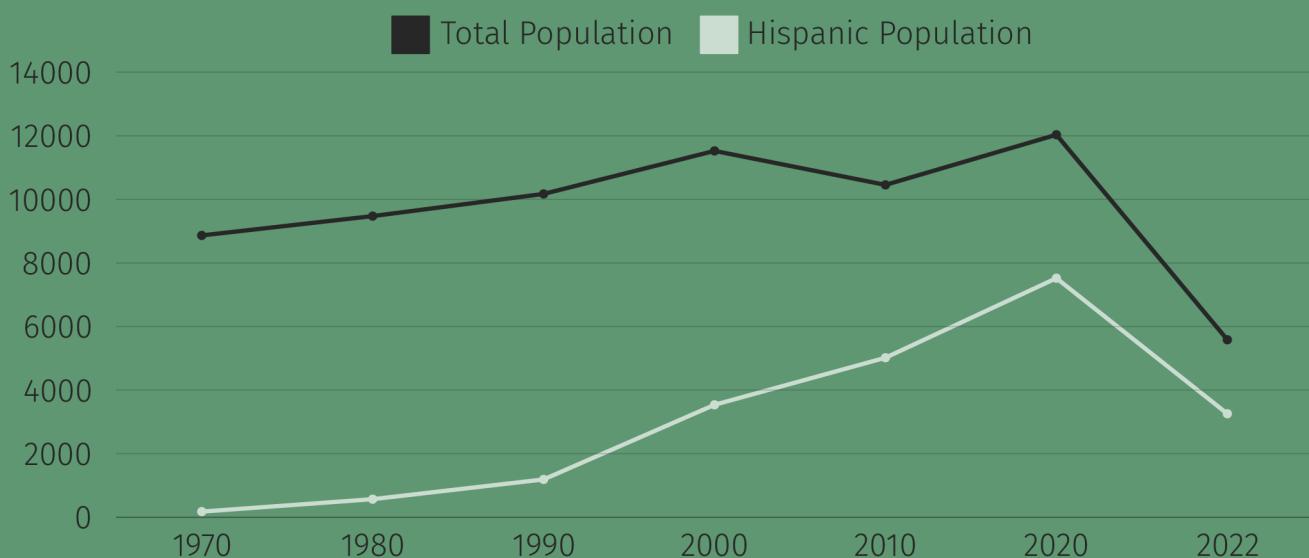


**FIGURE 2.19 SUBJECT SITE RACE DISTRIBUTION**

prominence of the Hispanic community in the study area.

This demographic shift has important implications for urban planning, community services, and cultural integration. The expanding Hispanic demographic may impact housing requirements, educational initiatives, and economic development plans.

**FIGURE 2.20 HISPANIC POPULATION FROM 1970 TO 2022**



Furthermore, it emphasizes the necessity of policies and initiatives that cater to the requirements of this evolving and growing community, encompassing language access, culturally attuned services, and infrastructure investments. The data indicates a dynamic, multicultural community in which Hispanics are pivotal in influencing its future.

## HOUSING UNITS

The study area contains a total of 1,770 dwelling units, of which 1,713 units (96.8%) are occupied, leaving 57 units (3.2%) vacant. This indicates a high level of housing utilization in the area, with a relatively low vacancy rate. More specifically, the housing utilization reflects that 67.8% are owner-occupied and 32.2% are renter-occupied units. The low percentage of vacant units indicates a stable housing market with strong demand for residential properties in this area. This analysis highlights the potential pressure on housing supply and the need to consider future development strategies to meet potential population growth.

## POVERTY RATE

Figure 2.21 depicts a significant portion of the community is economically stable; however, over 1,014 (18.2%) residents face financial hardship, which could also be attributed to the unemployment rate (14%). The poverty rate is a critical indicator that underscores the need for targeted intervention programs focusing on affordable housing, job creation, and access to education and healthcare. Furthermore, the relatively high proportion of people living above the poverty line (81.8%) indicates that the area has a strong economic foundation. This analysis demonstrates the region's dual economic conditions: a majority experiencing stability and growth, and a minority requiring targeted assistance to overcome economic challenges.

## COMMUTING PATTERNS

The commuting patterns in the study area highlight the heavy reliance on private vehicles, with 57% using cars, trucks, or vans as their primary mode of transportation. This may attribute to the high congestion and environmental concerns within the subject area and region overall. Public transportation accounts for 14% of commuting trips. As analyzed in Section C, this percentage shows notable usage; it suggests there may be challenges with accessibility, coverage, or reliability of public transit services. The relatively low share of active transportation modes, such as walking and bicycling, points to the potential lack of



### TOTAL HOUSING UNITS

1,770



### MEDIAN INDIVIDUAL

#### INCOME

\$52,449



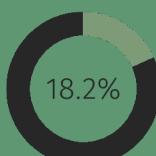
### UNEMPLOYMENT RATE

10% percent higher than the national percentage of 4%.



### BACHELOR'S DEGREE OR HIGHER

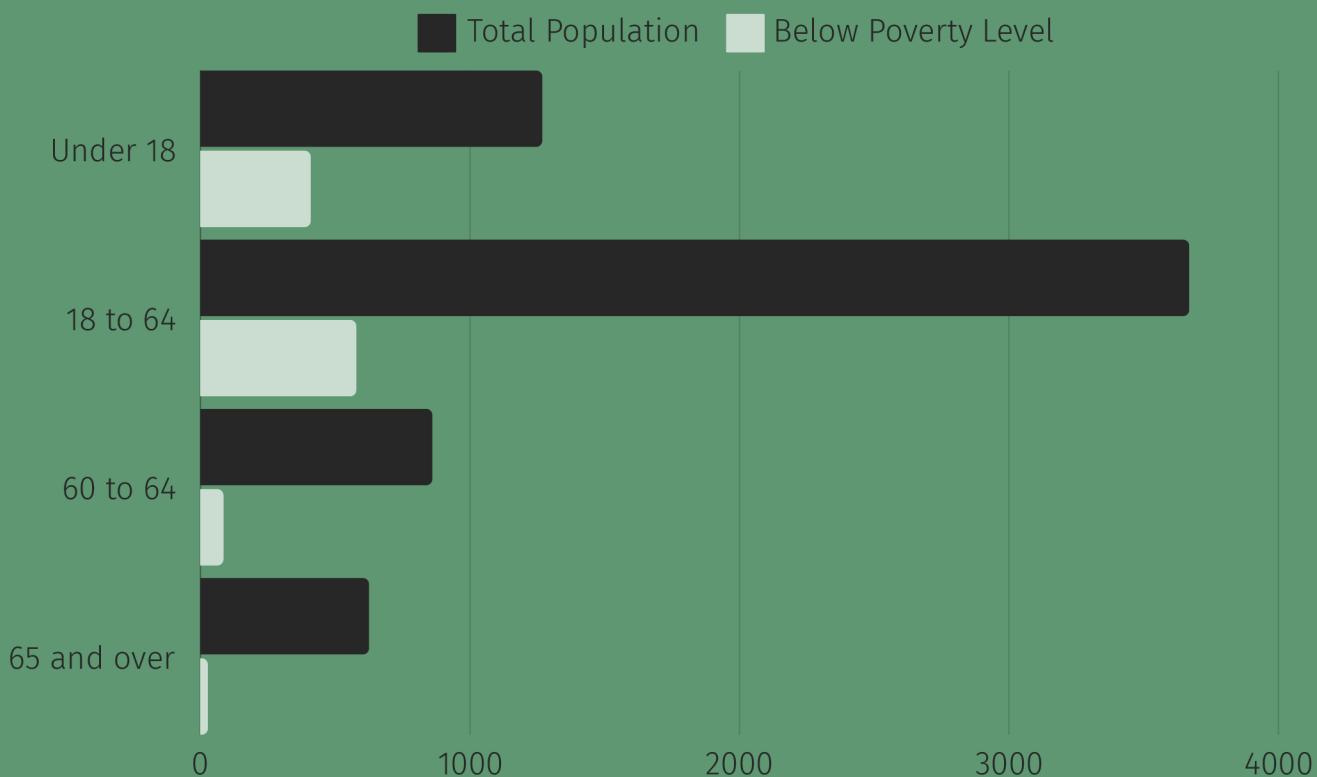
30% percent lower than the national percentage of 38%.



### POVERTY RATE

6.7% percent higher than the national percentage of 11.5%.

**FIGURE 2.21 POVERTY STATUS 2023-2024**

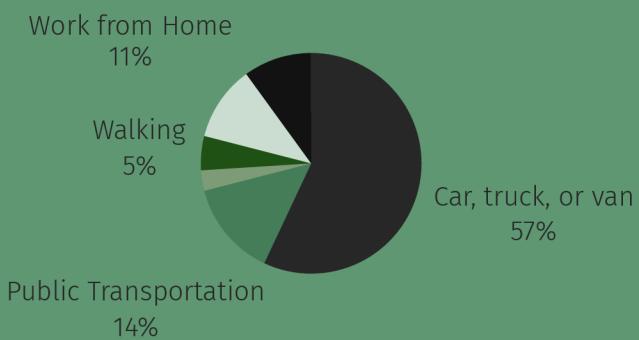


pedestrian- and bike-friendly infrastructure in the area.

The commuting patterns underscore the opportunity to enhance public transit services in the area. Addressing gaps in transit accessibility and reliability could not only increase the share of public transportation users but also reduce the reliance on private vehicles, aligning with broader goals for sustainability and mobility equity.

#### **VEHICLE OWNERSHIP**

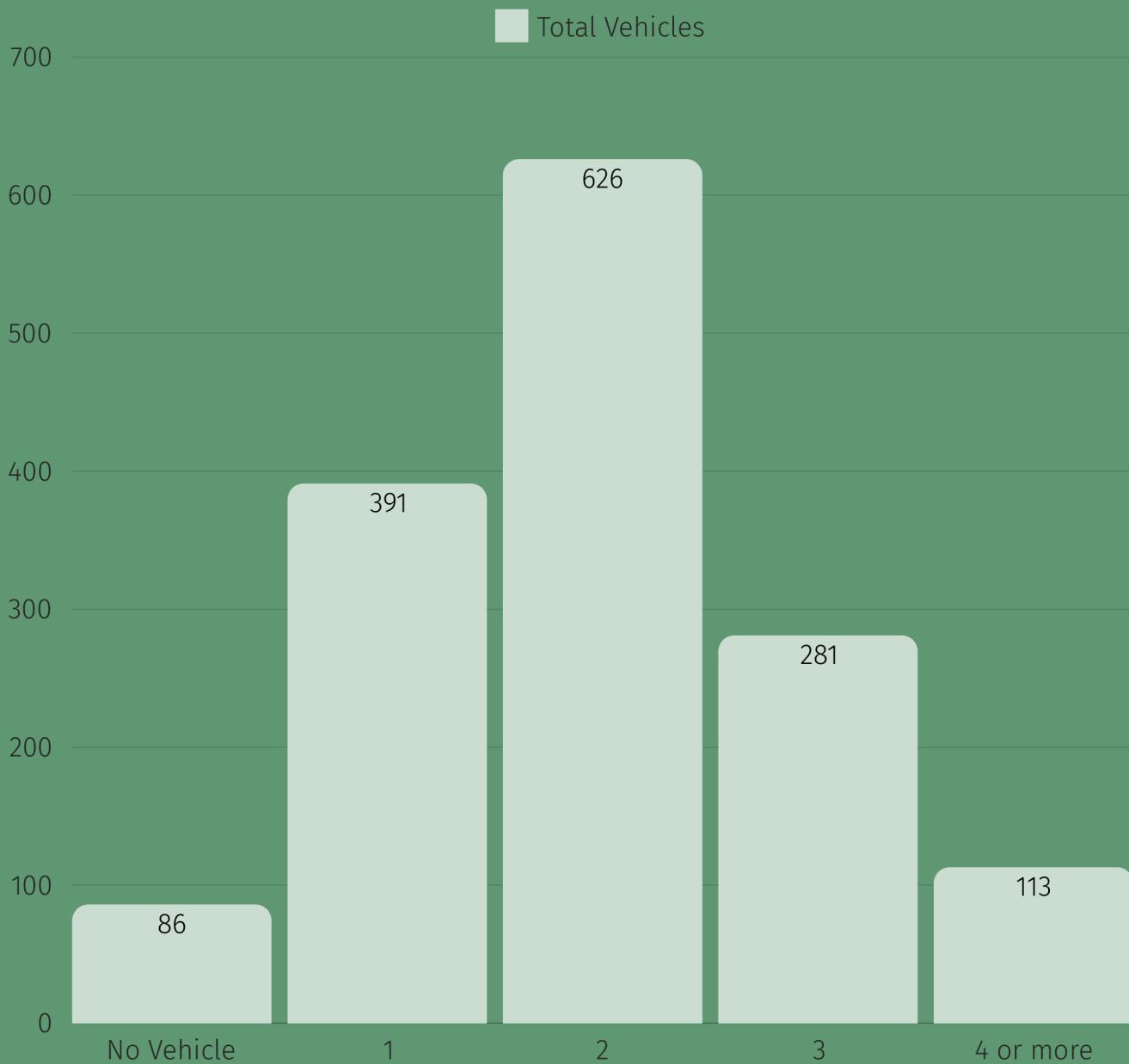
Figure 2.23 depicts total vehicle ownership. The majority of households in the study area own at least one vehicle (26%), 42% own two vehicles, and 19% own three or more vehicles. This finding highlights a substantial reliance on



**FIGURE 2.22 TRASPORTATION DISTRIBUTION**

private transportation. Notably, over 8% have no vehicle access; this indicates a segment of the population that may rely heavily on public transportation, walking, or biking for daily mobility. These households are particularly vulnerable to gaps in public transit services and limited transportation options.

**FIGURE 2.23 TOTAL VEHICLE OWNERSHIP**



### **SUMMARY OF CENSUS ANALYSIS**

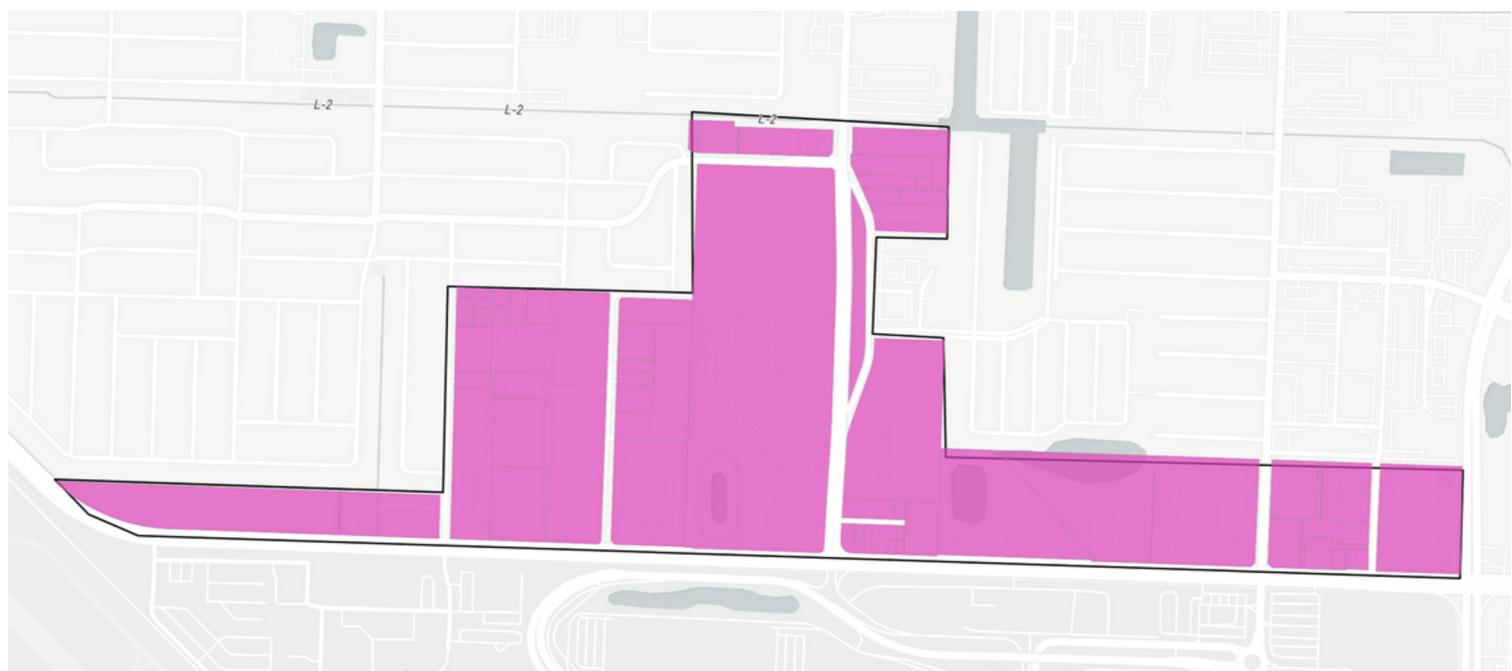
The census analysis offers important information about the subject area's housing, transportation, and demographic features. It provides an in-depth overview of the community's needs and objectives by highlighting the distinctive economic and social mechanisms that define it. The data highlights significant issues and possibilities, including the enhancement of public transportation access, the need to address housing demands, and the

support for a growingly diverse population. These results aid in directing prospective initiatives meant to promote inclusivity, increase mobility, and guarantee sustainable growth in the region. This analysis provides a basis for well-informed decision-making, highlighting areas where specific interventions can significantly enhance the community's quality of life and future progress.

# SCENARIO PLANNING



**FIGURE 3.1 EXISTING LAND USES**



**FIGURE 3.2 PROPOSED LAND USE**

## A. SCENARIO LAND USE OPTIONS

### SCENARIO 1: TOWN MIXED-USE

Data reveals that the town mixed-use scenario for population and infrastructure metrics has experienced significant changes. The population nearly tripled from 276 to 7,773, and dwelling unit numbers shot up from 81 to 4,461. There is also an employment benefit, from 2,120 jobs to 8,994, especially in retail, office, and public services, but it declines in the industrial sector. Significant gains include single-family attached and multifamily units. Multifamily units increased by 3,544, and single-family attached went from 0 to 931.

For example, total residential square footage grows by 4,280,649 square feet, and retail, office, and public buildings square footage increases by 1,321,609, 1,383,003, and 232,530 square feet, respectively. However, employment trends align with a decline in the industrial space. Job growth in the public sector has followed retail and industrial employment gains. Most of the residential building area is made up of multifamily units, and its retail space diversifies into restaurants, arts, and other services. In addition to public buildings, office space is mainly designed for office and medical services. Transportation and warehousing needs are, for the most part, sought after in industrial areas.

The data provides a broader spectrum of

the impact of the Town MXD scenario. Urban vacant and redeveloped lands are a focus of land consumption. The residential and commercial sectors drive demand for millions of BTUs. There is also a substantial annual water use, reflecting the rising demand of a larger population. Passenger vehicle and building energy use follow suit with the highest greenhouse gas (GHG) emissions, 12,756.43 tons and 56,408.06 tons. This scenario's transportation impact corresponds to 31.5 million annual vehicle miles traveled (VMT). However, parks and schools accessible within a 10-minute walk remain at 0, indicating areas where improving walkability would add value.

Regarding household costs, the residential water costs are about \$1,061,478 annually due to the excessive number of residential units. Also, there are 989 dwelling units in the special flood hazard zones out of 994 dwelling units at future risk from flooding and sea level rise. This scenario has characterized extreme rates of urban growth, improvements in accessibility, and the upscaling of residential, office, and public spaces accompanied by increasing energy and water demands. However, areas that have not changed much include industrial employment and walkability access, which are key domains of future urban planning.

## **SCENARIO 2: VILLAGE MIXED-USE**

For this scenario, the configuration of a mixed village use review shows the population and employment growth against infrastructure growth while maintaining a compact land consumption footprint. Agricultural land is unaffected, and land usage data consumes 57 acres of urban vacant land and 128 acres of redeveloped urban land. In this case, there's an annual energy demand of 465.36 billion BTUs, with residential energy use of 149.45 billion BTUs and a commercial sector of 315.91 billion BTUs. Water demand is also high at 321.34 million gallons per year, divided into residential usage of 137.09 million gallons and commercial usage of 184.25 million gallons per year.

However, accessibility can be improved since current transit and walk accessibility data show parks and schools without access within 10 minutes of walking in the Village Mixed-Use Development scenario. Transportation reports show a high volume of travel, most likely from dispersed layouts, which helps to shape decisions regarding potential areas for tiered or enhanced transit options that may alleviate the need for people to depend upon personal vehicles. Compared to the GHG emission of passenger vehicles, the other results are in terms of the emission from passenger vehicles: 12,756.43 tons, building energy usage: 56,408.06 tons, and water-related

emission: 239.97 tons. These requirements highlight the necessity to consider transportation and building operations emissions to achieve a sustainable result.

These results demonstrate that household costs associated with the residential use of water consume about \$1,061,478 per year, indicating an opportunity to reduce household water consumption as the area expands. In this scenario, risk and resilience factors are also very relevant since 989 dwelling units are within special flood hazard zones, and 994 dwelling units are located in an area facing hazards from the sea level rise, a considerable threshold for future resilience planning. Finally, the Village Mixed-Use scenario allows for steady residential and commercial growth while maintaining a minimum land consumption. Increasing transit accessibility, emissions reduction, and resilience measures could make it more sustainable and livable with the population.

## **SCENARIO 3: INDUSTRIAL/OFFICE/RESIDENTIAL MIXED-USE**

Scenario 3 applies to the Industrial/Office/Residential Mixed-Use scenario to examine a balanced yet sizable energy and water demand expansion in concert with a moderate amount of land use. In this scenario, 57 acres of urban redevelopment land, 128

acres, are used for urban vacant land, and no agricultural land is used to keep the area's green spaces. Energy demand is 289.17 billion BTUs annually; residential energy use is 117.30 billion BTUs, and commercial sectors account for 171.87 billion BTUs. The water demand is also broken up, including 201.56 million gallons per year, 113.14 million gallons for residential use, and 88.42 million for commercial use.

Accessibility-wise, this area lacks parks and schools within a 10-minute walk radius, which would probably be a good investment. Annual vehicle miles traveled data reveals 26.84 million miles, a dependency on personal vehicles, and an opportunity to integrate transit to reduce vehicle dependency. Passenger vehicle emissions are 10,858.66 tons from GHG, 35,106.78 tons from building energy, and 150.52 tons from water-related emissions. Reducing emissions primarily from transportation and building energy use is one pattern suggested to make the profile more sustainable.

Residential water costs are on the lower end of other scenarios (\$876,040 annually), possibly due to more efficient resource usage. The risk and resilience data shows that 652 dwelling units are included in special flood hazard zones and that flood risks and sea level rise threaten 655 dwelling units.

The industrial/office/residential mixed-use scenario delivers steady development rates of industrial, office, and residential spaces but with moderate environmental impacts. It also reveals several potential enhancement opportunities, including better linkages with existing jobs, transit and walk accessibility, emissions reductions, and resilience planning to help ensure long-term sustainability and livability as the area evolves.

#### **SCENARIO 4: CITY MIXED-USE**

Research for Scenario 4 City Mixed Use revealed that, in a dense urban setting, there will be growth in high energy and water demand, mode of transportation use, and household costs. At 57 acres of urban vacant land and 128 acres of urban redevelopment land consumed, land consumption remains moderate, and no built land intervenes in areas dedicated to agriculture. The energy demand in the scenario is large at 584.11 billion BTUs annually. The dense mixed-use nature is emphasized by the fact that residential energy use is 339.29 billion BTUs, while the commercial sectors account for 244.82 billion. Similarly, water demand is high, with 433.05 million gallons per year, of which 318.85 million gallons is water used by residents and 114.20 million gallons by the commercial sector.

Accessibility by walk and transit stays at zero, meaning no improvements can be made to getting to parks and schools within a 10-minute walk. This analysis shows a highly vehicle-dependent society because the annual vehicle miles traveled (VMT) reaches 45.62 million in all four (4) scenarios. This has implications requiring the improvement of alternatives to reduce the use of personal vehicles.

In this scenario, greenhouse gas emissions peak at 18,452.11 tons from passenger vehicles, 75,890.34 tons from building energy, and 323.39 tons from water-related sources, which is the highest in comparison with all scenarios. This shows the environmental effects of high density and urban intensity in the City MXD scenario.

The total annual residential water costs are about \$2,468,795 due to increased water consumption by the urban population. Resilience data reflect that 2,379 dwelling units are located in special flood hazard zones, and 2,391 units are at risk from sea level rise and flood hazards, suggesting the importance of solid resilience planning in these areas. The City Mixed-Use scenario explores the positive and negative aspects of high-density urbanization, including dramatic energy and water use increases, high household costs, and extreme resilience-related issues.

## B. SCENARIO STATISTICS

### SUMMARY STATISTICS

#### Population

##### Number of residents

Base Scenario	276
Scenario # 1: Town MXD	7,773
Scenario # 2: Village MXD	5,375
Scenario # 3: Industrial/Office/Res MXD	18,509
Scenario # 4: City MXD	15,091

#### Housing

##### Number of dwelling units

Base Scenario	81
Scenario # 1: Town MXD	4,543
Scenario # 2: Village MXD	2,995
Scenario # 3: Industrial/Office/Res MXD	10,921
Scenario # 4: City MXD	8,902

#### Households

##### Number of households

Base Scenario	75
Scenario # 1: Town MXD	4,270
Scenario # 2: Village MXD	2,815
Scenario # 3: Industrial/Office/Res MXD	10,266
Scenario # 4: City MXD	8,368

#### Jobs

##### Number of employees

Base Scenario	2,120
Scenario # 1: Town MXD	8,994
Scenario # 2: Village MXD	3,296
Scenario # 3: Industrial/Office/Res MXD	6,826
Scenario # 4: City MXD	17,311

#### Housing by Type

##### Number of dwelling units

Single-family detached, large lot	Base Scenario	81
Single-family detached, small lot		
Single-family attached	Scenario # 1: Town MXD	4,543
Multifamily	Scenario # 2: Village MXD	2,995
	Scenario # 3: Industrial/Office/Res MXD	10,921
	Scenario # 4: City MXD	8,902

#### Jobs by Sector

##### Number of employees

Retail	Base Scenario	2,120
Office		
Public	Scenario # 1: Town MXD	8,994
Industrial	Scenario # 2: Village MXD	3,296
Agriculture/Extraction	Scenario # 3: Industrial/Office/Res MXD	6,826
Military	Scenario # 4: City MXD	17,311

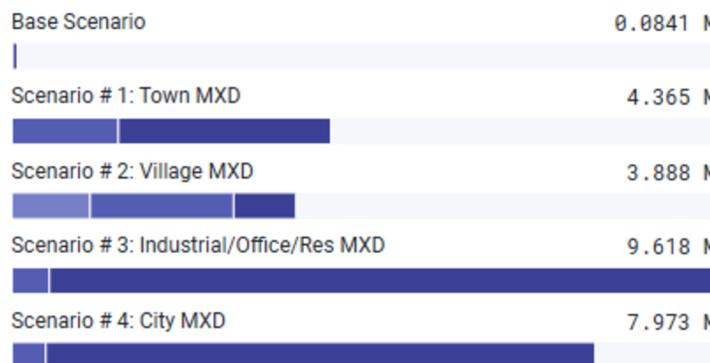
## B. SCENARIO STATISTICS

### SUMMARY STATISTICS

#### Building Area: Residential

Floor area in square feet (millions)

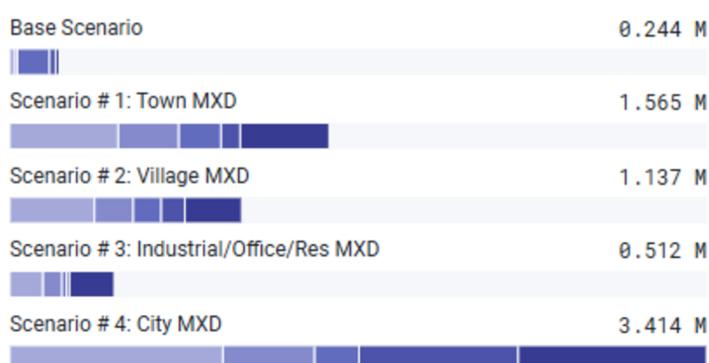
- Single-family detached, large lot ■ Single-family detached, small lot
- Single-family attached ■ Multifamily



#### Building Area: Retail

Floor area in square feet (millions)

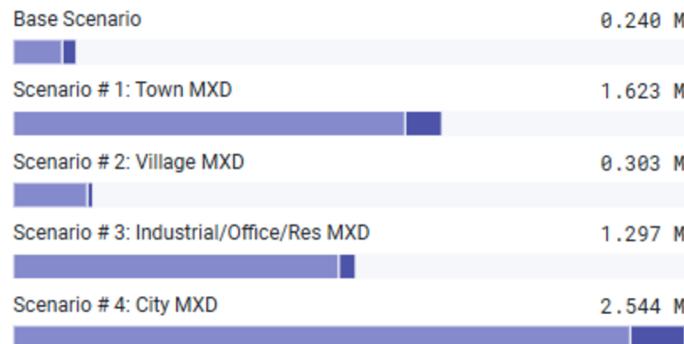
- Retail services ■ Restaurant ■ Arts and entertainment
- Accommodation ■ Other retail



#### Building Area: Office

Floor area in square feet (millions)

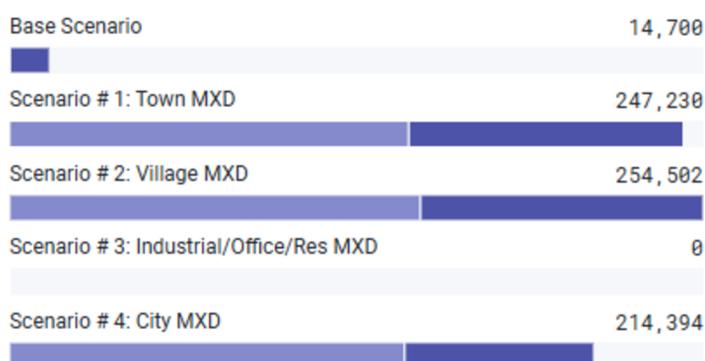
- Office services ■ Medical services



#### Building Area: Public

Floor area in square feet

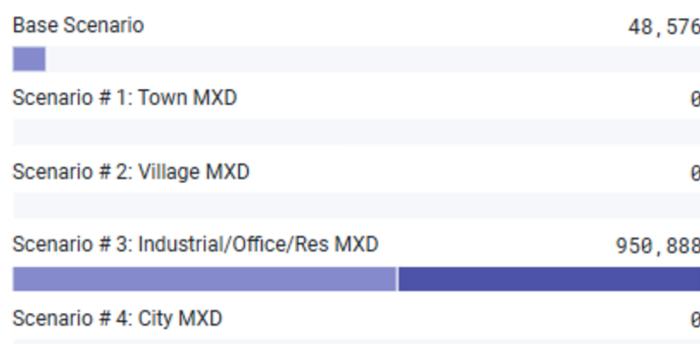
- Public administration ■ Education



#### Building Area: Industrial

Floor area in square feet

- Transportation/Warehouse ■ Wholesale



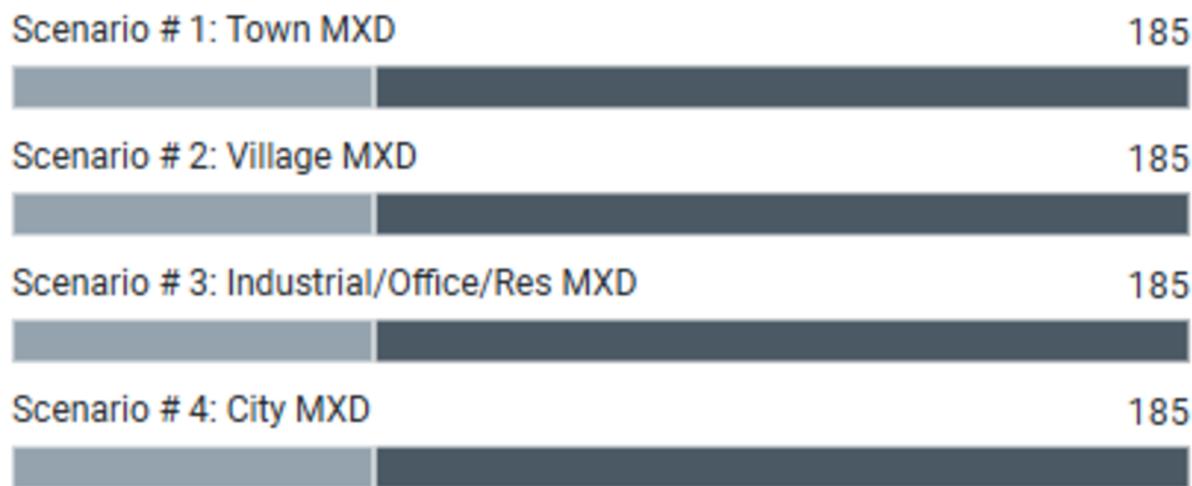
## B. SCENARIO STATISTICS

### LAND CONSUMPTION

#### Total Land Consumed

Land cover change in acres

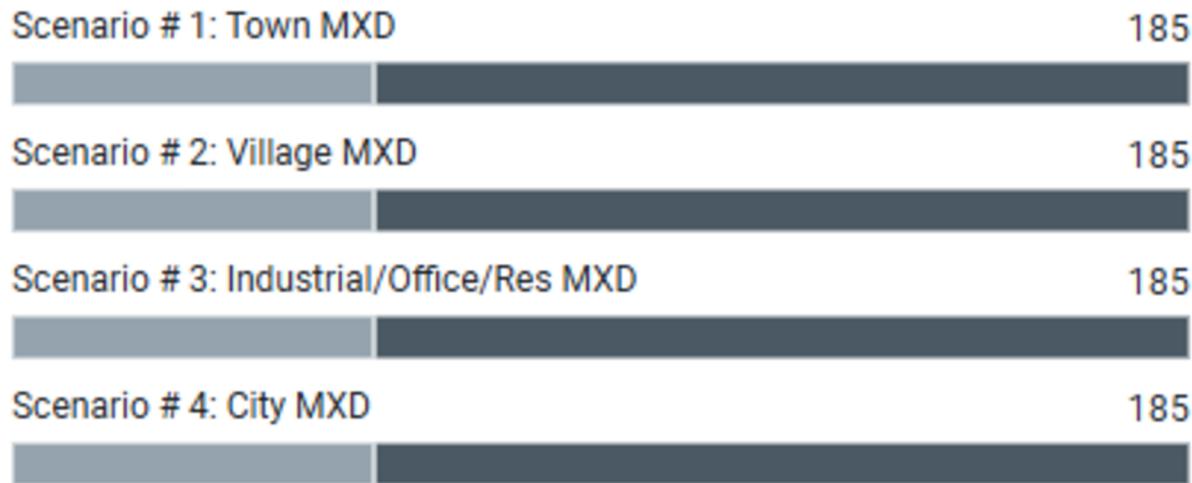
■ Urban vacant ■ Urban redevelopment ■ Agricultural  
■ Woodland ■ Other greenfield



#### Urban Land Consumed

Urbanized land with new development in acres

■ Urban vacant ■ Urban redevelopment



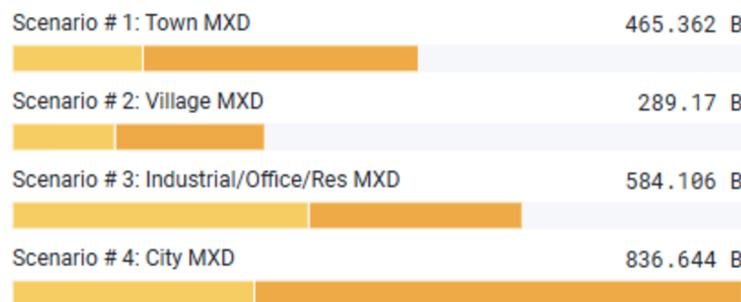
## B. SCENARIO STATISTICS

### ENERGY USE

#### Total Annual Energy Use

Electricity and gas consumed in BTUs (billions)

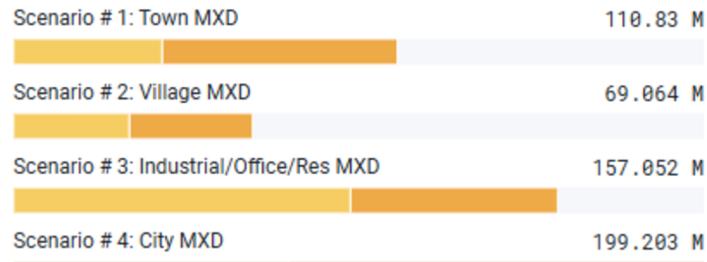
■ Residential ■ Commercial



#### Annual Electricity Use

Kilowatt-hours (millions)

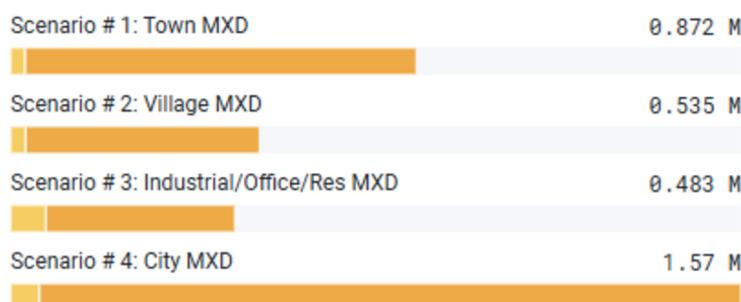
■ Residential ■ Commercial



#### Annual Gas Use

Therms (millions)

■ Residential ■ Commercial



#### Per Household Annual Energy Use

Average electricity and gas consumption in BTUs (millions)

Scenario # 1: Town MXD

35 M

Scenario # 2: Village MXD

41.669 M

Scenario # 3: Industrial/Office/Res MXD

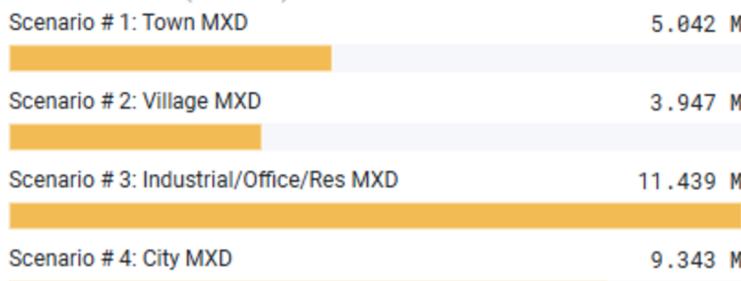
33.049 M

Scenario # 4: City MXD

33.118 M

#### Annual Residential Energy Costs

Total in dollars (millions)



#### Annual Building Energy GHG Emissions

Metric tons of CO<sub>2</sub> equivalent

Scenario # 1: Town MXD

56,408

Scenario # 2: Village MXD

35,107

Scenario # 3: Industrial/Office/Res MXD

75,890

Scenario # 4: City MXD

101,398

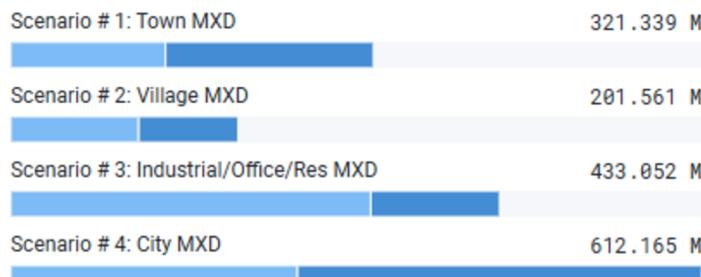
## B. SCENARIO STATISTICS

### WATER USE

#### Total Annual Water Use

Indoor and outdoor water consumed in gallons (millions)

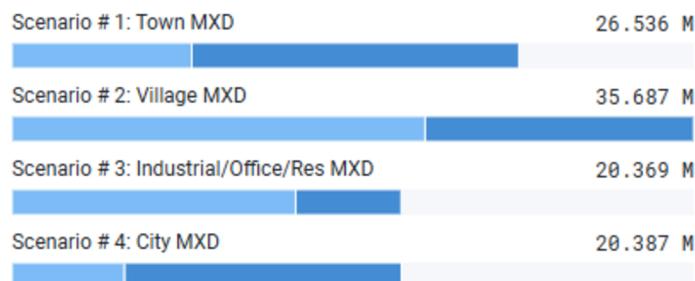
■ Residential ■ Commercial



#### Annual Outdoor Water Use

Water consumed in gallons (millions)

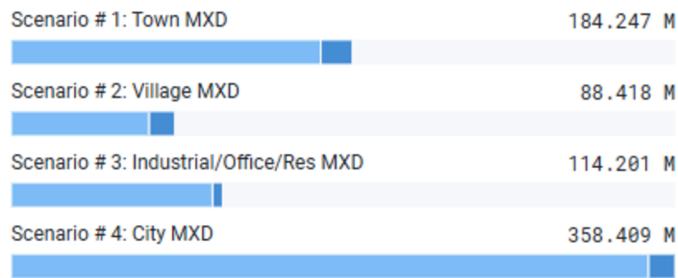
■ Residential outdoor ■ Commercial outdoor



#### Annual Commercial Water Use

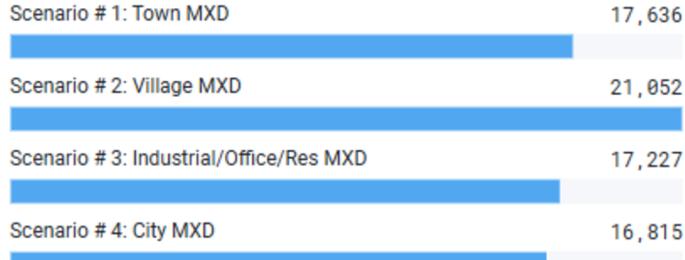
Water consumed in gallons (millions)

■ Commercial indoor ■ Commercial outdoor



#### Per Capita Annual Residential Water Use

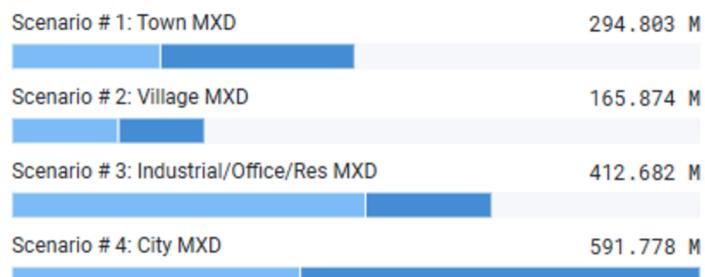
Average indoor and outdoor water consumption in gallons



#### Annual Indoor Water Use

Water consumed in gallons (millions)

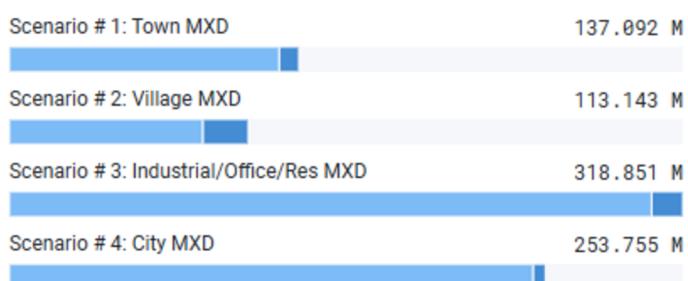
■ Residential indoor ■ Commercial indoor



#### Annual Residential Water Use

Water consumed in gallons (millions)

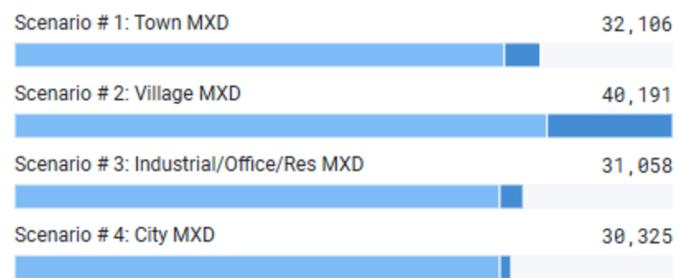
■ Residential indoor ■ Residential outdoor



#### Per Household Annual Residential Water Use

Average indoor and outdoor water consumption in gallons

■ Indoor ■ Outdoor

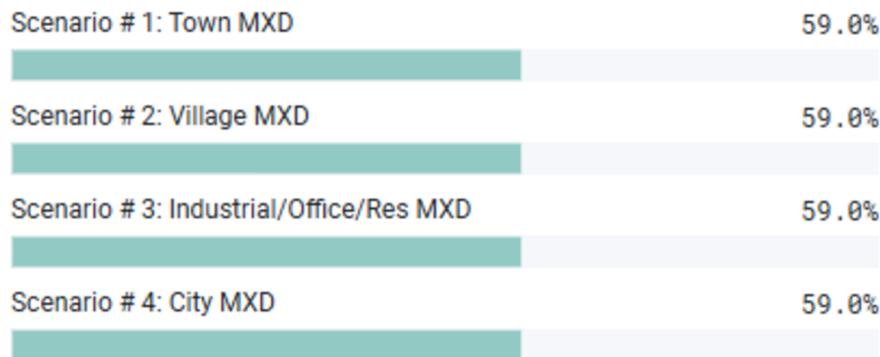


## B. SCENARIO STATISTICS

### WALK ACCESSIBILITY

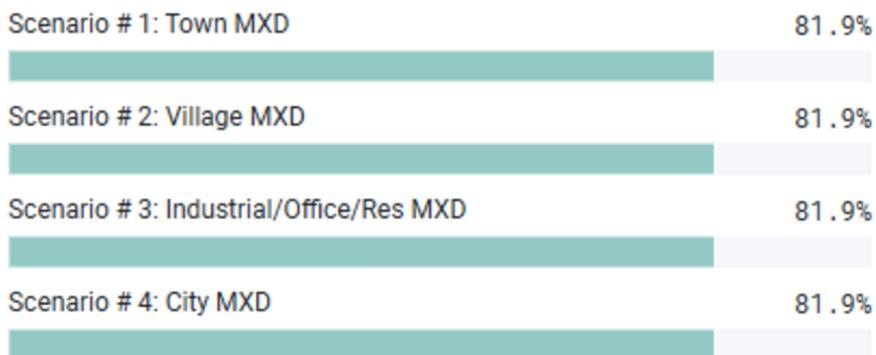
#### Schools Access

Percent of residents within 15 minutes



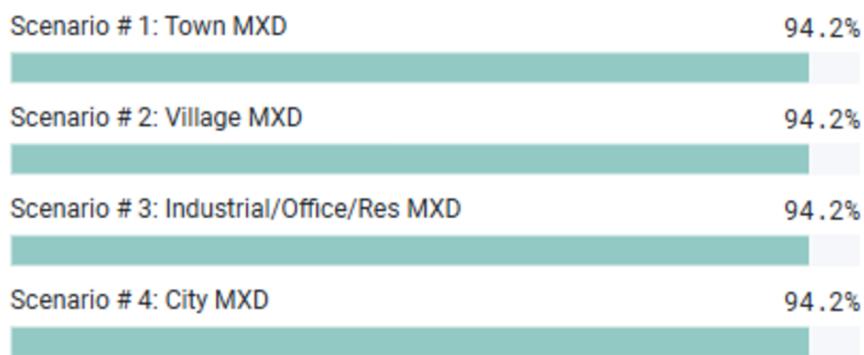
#### Transit Access: All Stops

Percent of residents within 5 minutes



#### Retail Access

Percent of residents within 10 minutes

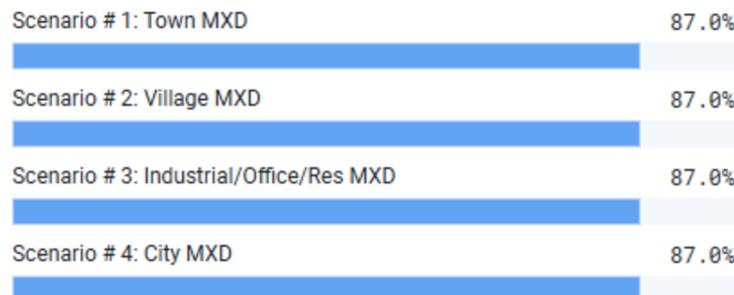


## B. SCENARIO STATISTICS

### TRANSIT ACCESSIBILITY

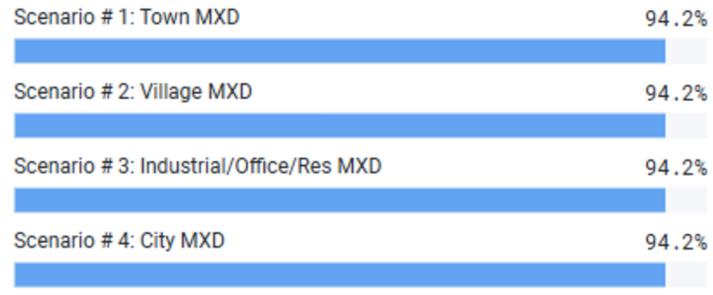
#### Schools Access

Percent of residents within 20 minutes



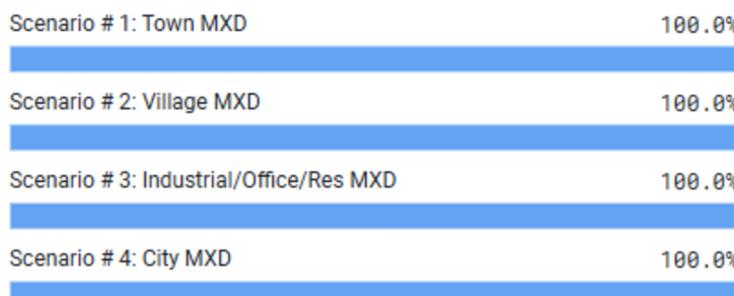
#### Retail Access

Percent of residents within 10 minutes



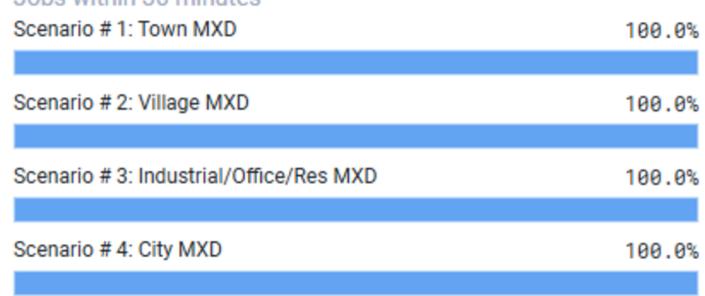
#### Employment Access: 10+ Percent

Jobs within 30 minutes



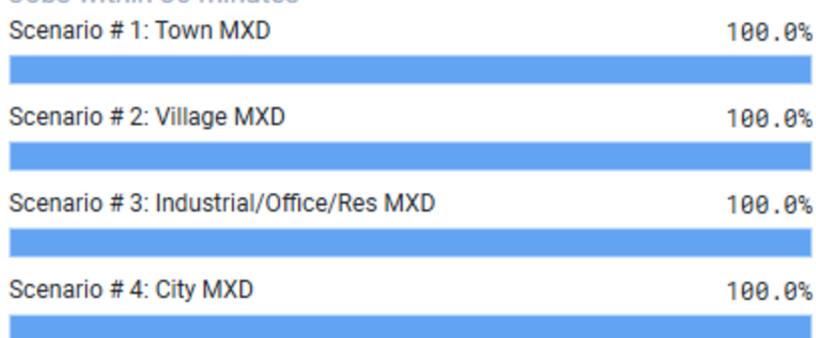
#### Employment Access: 25+ Percent

Jobs within 30 minutes



#### Employment Access: 50+ Percent

Jobs within 30 minutes



## B. SCENARIO STATISTICS TRANSPORTATION

### Annual VMT



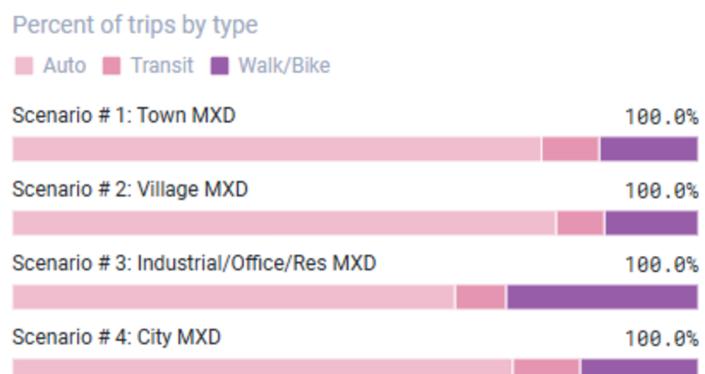
### Per Capita Annual Residential VMT



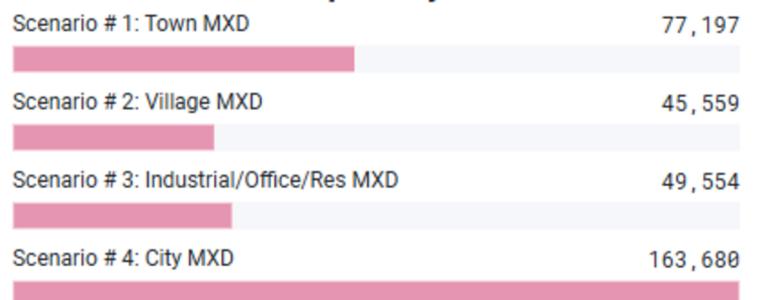
### Per Household Annual Residential VMT



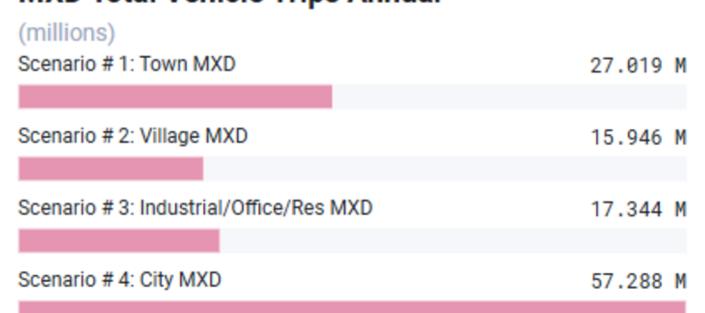
### Travel Mode Share



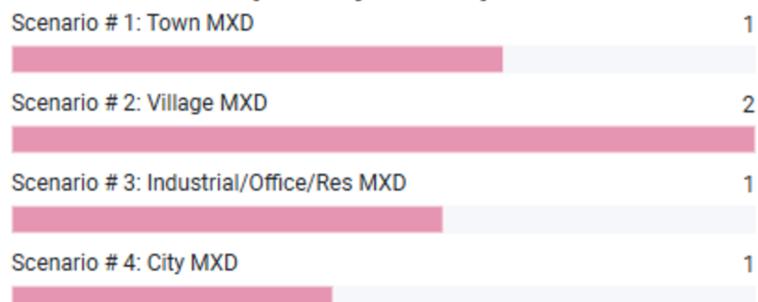
### MXD Total Vehicle Trips Daily



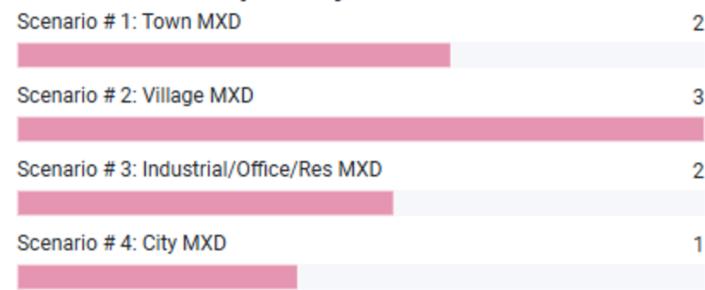
### MXD Total Vehicle Trips Annual



### MXD Vehicle Trips Daily Per Capita

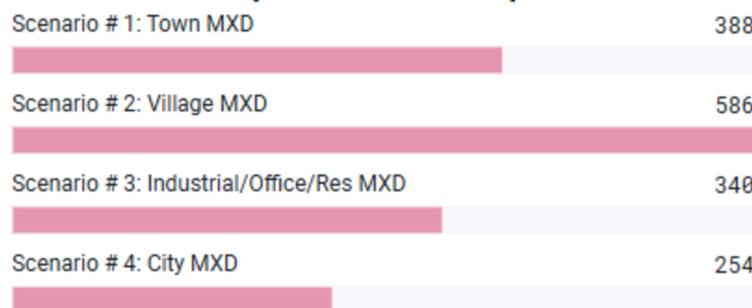


### MXD Vehicle Trips Daily Per Household

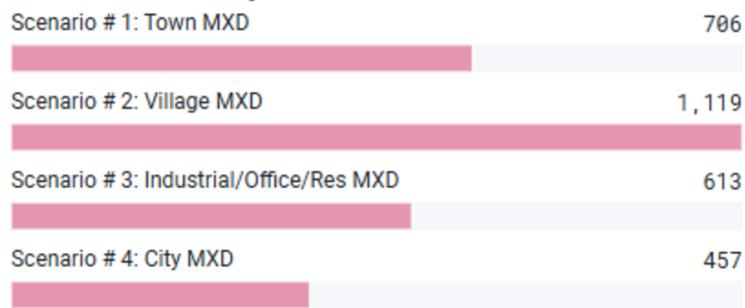


## B. SCENARIO STATISTICS TRANSPORTATION

### MXD Vehicle Trips Annual Per Capita

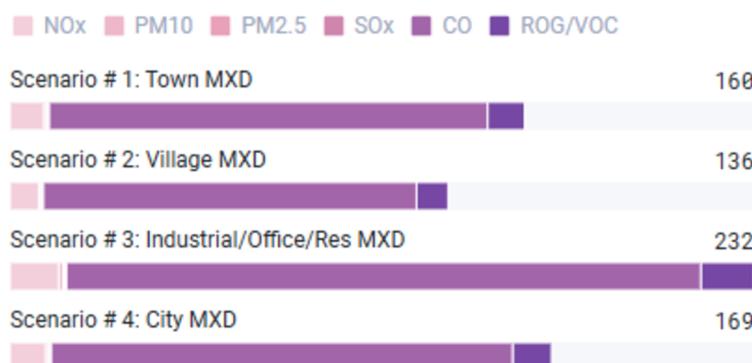


### MXD Vehicle Trips Annual Per Household



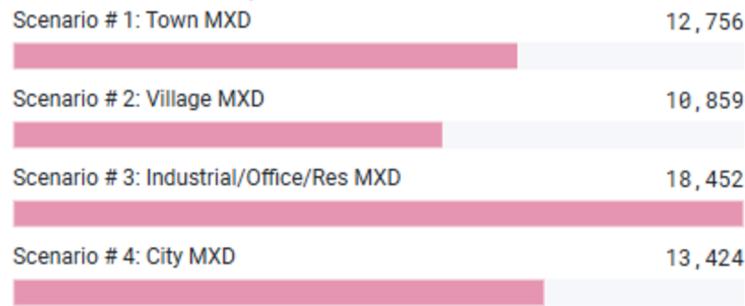
### Annual Passenger Vehicle Pollutant Emissions by Type

Metric tons of CO<sub>2</sub> equivalent



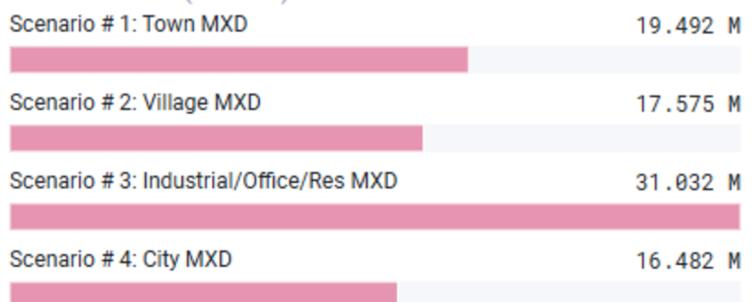
### Annual Passenger Vehicle GHG Emissions

Metric tons of CO<sub>2</sub> equivalent



### Annual Passenger Vehicle Costs

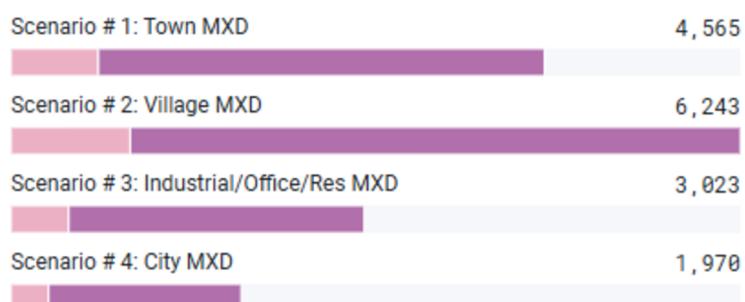
Total in dollars (millions)



### Per Household Annual Auto Costs by Type

Average in dollars

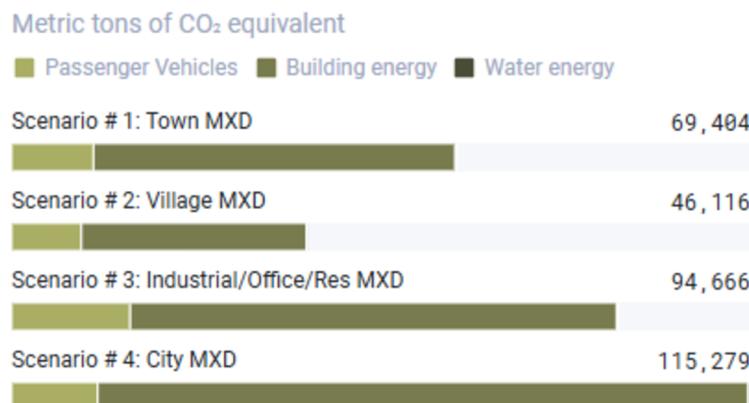
Fuel      Ownership and maintenance



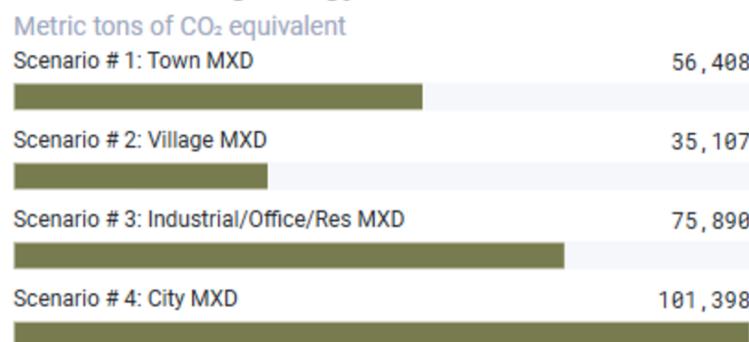
## B. SCENARIO STATISTICS

### EMISSIONS

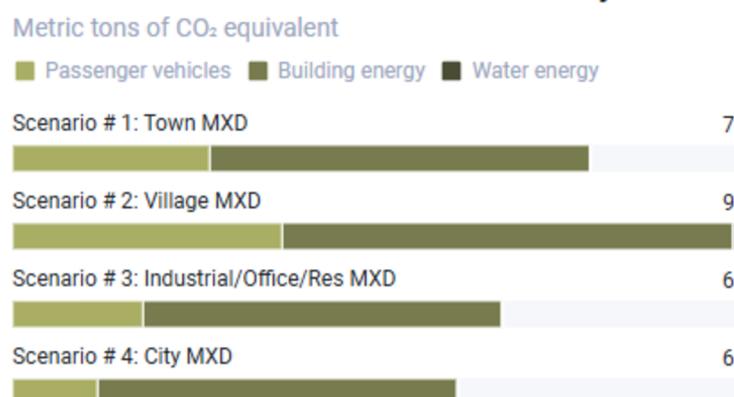
#### Annual GHG Emissions by Source



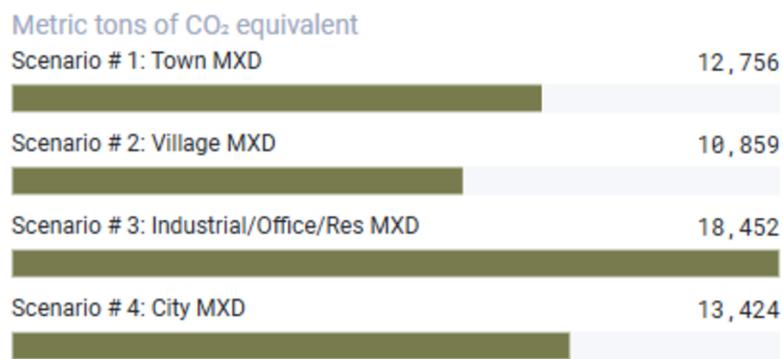
#### Annual Building Energy GHG Emissions



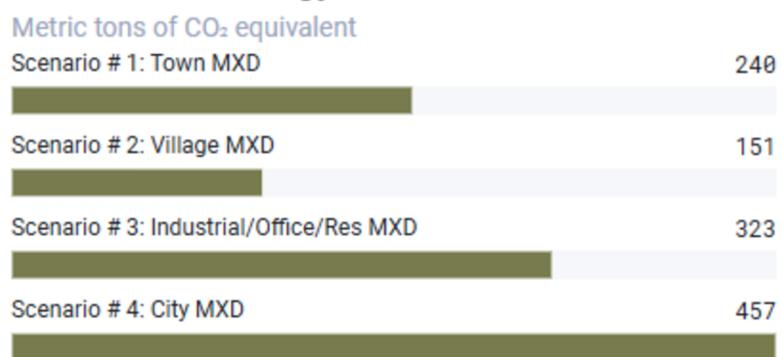
#### Per Household Annual GHG Emissions by Source



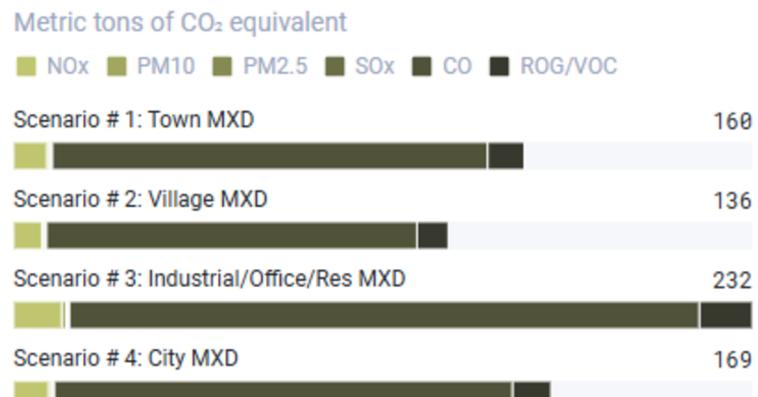
#### Annual Passenger Vehicle GHG Emissions



#### Annual Water Energy GHG Emissions



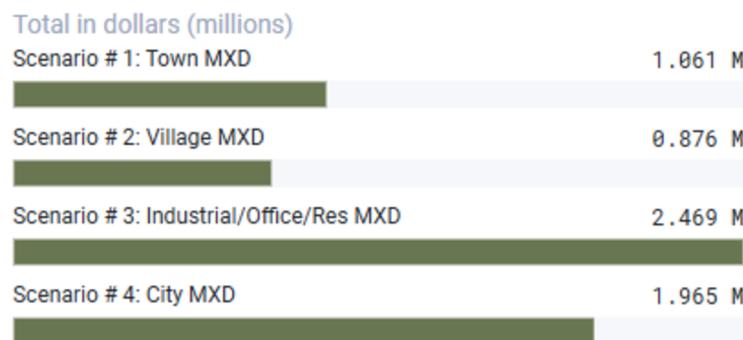
#### Annual Passenger Vehicle Pollutant Emissions by Type



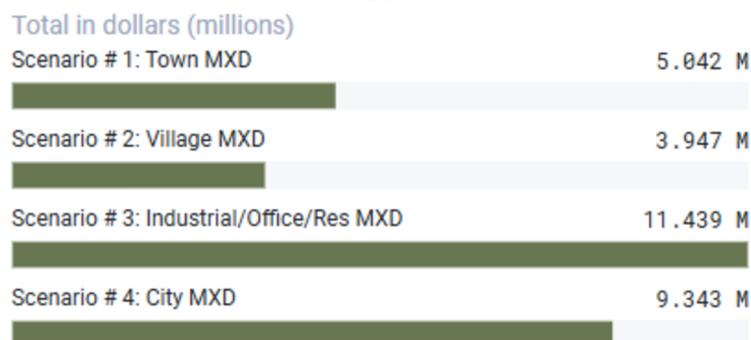
## B. SCENARIO STATISTICS

### HOUSEHOLD COSTS

#### Annual Residential Water Costs



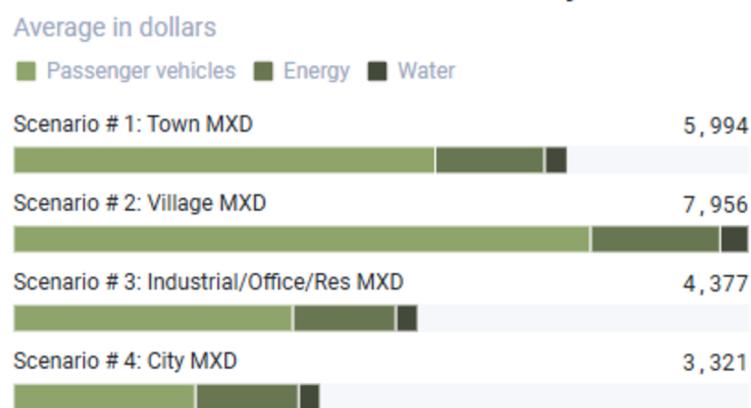
#### Annual Residential Energy Costs



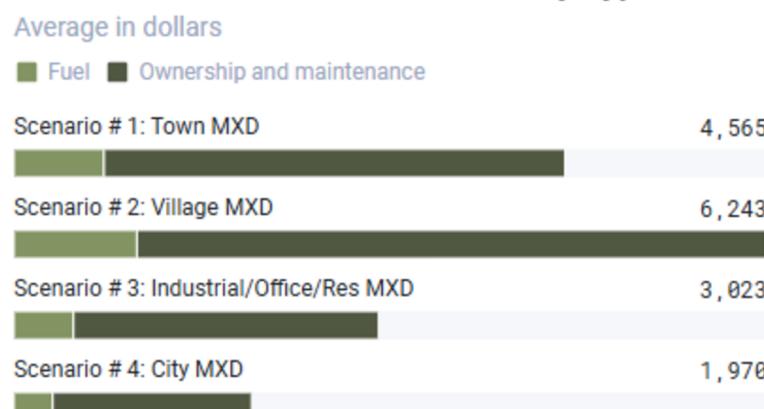
#### Annual Passenger Vehicle Costs



#### Per Household Annual Auto and Utility Costs



#### Per Household Annual Auto Costs by Type



## B. SCENARIO STATISTICS

### RISK AND RESILIENCE

#### Housing in Hazard Zones

Number of dwelling units

■ Flood ■ Sea level rise

Scenario # 1: Town MXD	994	Scenario # 1: Town MXD	1,702
Scenario # 2: Village MXD	655	Scenario # 2: Village MXD	1,177
Scenario # 3: Industrial/Office/Res MXD	2,391	Scenario # 3: Industrial/Office/Res MXD	4,052
Scenario # 4: City MXD	1,949	Scenario # 4: City MXD	3,304

#### Jobs in Hazard Zones

Number of employees

■ Flood ■ Sea level rise

Scenario # 1: Town MXD	1,969	Scenario # 1: Town MXD	40
Scenario # 2: Village MXD	722	Scenario # 2: Village MXD	40
Scenario # 3: Industrial/Office/Res MXD	1,495	Scenario # 3: Industrial/Office/Res MXD	40
Scenario # 4: City MXD	3,789	Scenario # 4: City MXD	40

#### Canvas Features in Hazard Zones

Number of geometries (e.g. parcels)

■ Flood ■ Sea level rise

Scenario # 1: Town MXD	18
Scenario # 2: Village MXD	18
Scenario # 3: Industrial/Office/Res MXD	18
Scenario # 4: City MXD	18

#### Population in Hazard Zones

Number of residents

■ Flood ■ Sea level rise

Scenario # 1: Town MXD	1,702
Scenario # 2: Village MXD	1,177
Scenario # 3: Industrial/Office/Res MXD	4,052
Scenario # 4: City MXD	3,304

#### Land Area in Hazard Zones

Acres

■ Flood ■ Sea level rise

Scenario # 1: Town MXD	40
Scenario # 2: Village MXD	40
Scenario # 3: Industrial/Office/Res MXD	40
Scenario # 4: City MXD	40

## B. SCENARIO STATISTICS

### RISK AND RESILIENCE

#### Housing in Flood Hazard Zones

Number of dwelling units	
Scenario # 1: Town MXD	989
Scenario # 2: Village MXD	652
Scenario # 3: Industrial/Office/Res MXD	2,379
Scenario # 4: City MXD	1,939

#### Population in Flood Hazard Zones

Number of residents	
Scenario # 1: Town MXD	1,693
Scenario # 2: Village MXD	1,171
Scenario # 3: Industrial/Office/Res MXD	4,031
Scenario # 4: City MXD	3,287

#### Jobs in Flood Hazard Zones

Number of employees	
Scenario # 1: Town MXD	1,959
Scenario # 2: Village MXD	718
Scenario # 3: Industrial/Office/Res MXD	1,487
Scenario # 4: City MXD	3,770

#### Land Area in Flood Hazard Zones

Acres	
Scenario # 1: Town MXD	40
Scenario # 2: Village MXD	40
Scenario # 3: Industrial/Office/Res MXD	40
Scenario # 4: City MXD	40

#### Canvas Features in Flood Hazard Zones

Number of geometries (e.g. parcels)	
Scenario # 1: Town MXD	17
Scenario # 2: Village MXD	17
Scenario # 3: Industrial/Office/Res MXD	17
Scenario # 4: City MXD	17

## B. SCENARIO STATISTICS

### RISK AND RESILIENCE

#### Housing in Sea Level Rise Hazard Zones

Number of dwelling units

Scenario # 1: Town MXD



Scenario # 2: Village MXD



Scenario # 3: Industrial/Office/Res MXD



Scenario # 4: City MXD



#### Population in Sea Level Rise Hazard Zones

Number of residents

Scenario # 1: Town MXD

9

Scenario # 2: Village MXD

6

Scenario # 3: Industrial/Office/Res MXD

21

Scenario # 4: City MXD

17

#### Jobs in Sea Level Rise Hazard Zones

Number of employees

Scenario # 1: Town MXD



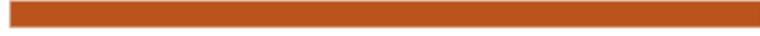
Scenario # 2: Village MXD



Scenario # 3: Industrial/Office/Res MXD



Scenario # 4: City MXD



#### Land Area in Sea Level Rise Hazard Zones

Acres ()

Scenario # 1: Town MXD

206.936

Scenario # 2: Village MXD

206.936

Scenario # 3: Industrial/Office/Res MXD

206.936

Scenario # 4: City MXD

206.936

#### Canvas Features in Sea Level Rise Hazard Zones

Number of geometries (e.g. parcels)

Scenario # 1: Town MXD

1



Scenario # 2: Village MXD

1



Scenario # 3: Industrial/Office/Res MXD

1



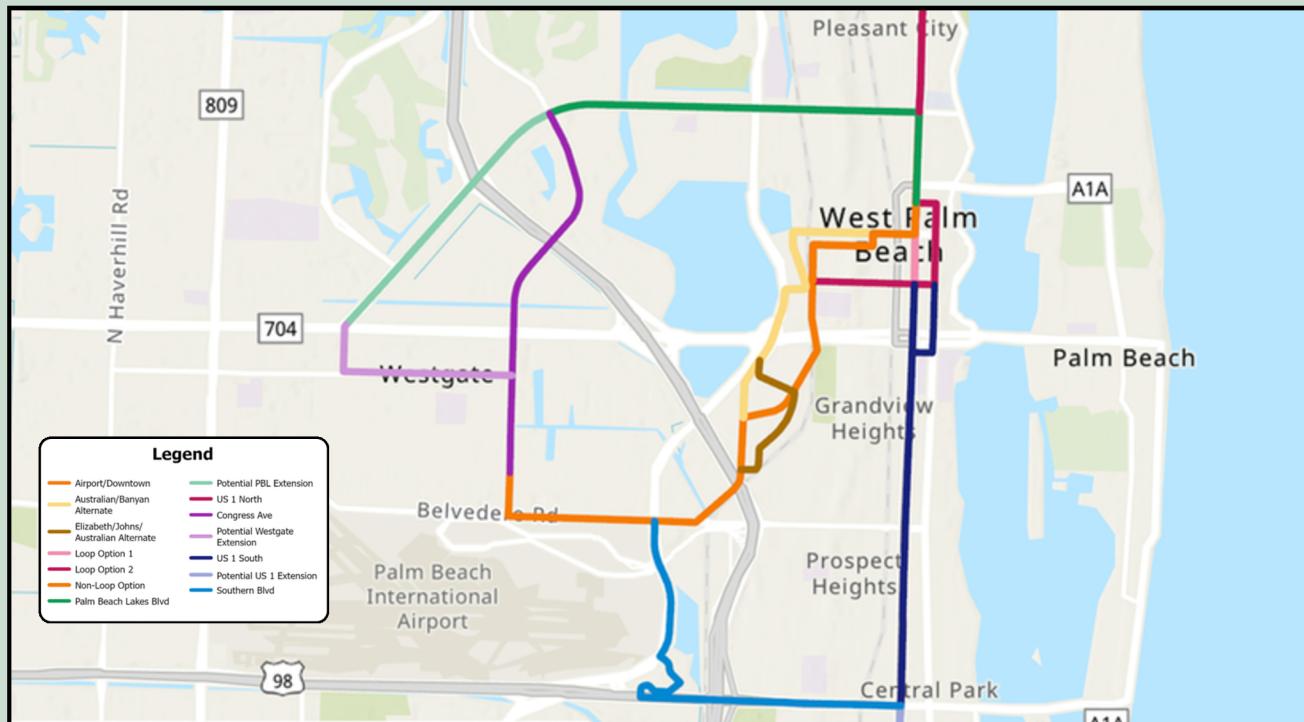
Scenario # 4: City MXD

1



# TRANSIT PLANNING

## A. TRACKLESS TRAMS



**FIGURE 4.1 TPA FUTURE TRANSIT ROUTE MAP**

The proposed redevelopment of the subject site introduces a transformative vision, focusing on a mixed-use development strategy that significantly increases population density, housing options, and economic activity. Potential redevelopment coupled with a push for walkability and sustainability, naturally lead to increased transportation needs. By introducing a variety of multifamily housing units, industrial and office spaces, and public amenities, the redevelopment aims to also address the critical challenge of community connectivity. The projected rise in population and mixed land-use patterns highlights the demand for a reliable and efficient transit solution to reduce dependency on private vehicles, alleviate traffic congestion, and connect key destinations like the airport and downtown West Palm Beach. To address

these issues, this section outlines the recommendation for implementing an Autonomous Rail Rapid Transit (ART) system, in this case a trackless tram—a sustainable public transportation network designed to meet the area's current and future needs. In line with this proposal, one of the Palm Beach Transportation Planning Agency's (TPA) initiatives is implementing the 561 Plan. The 2045 Long Range Transportation Plan (LRTP) includes five north-south and six east-west enhanced transit corridors that connect central Palm Beach County to the rest of Southeast Florida (Figure 4.1). The TPA's 561 Plan puts these multimodal ideas into action. The TPA selected these multimodal concepts by analyzing population density, transit propensity, social equity, and transit ridership. The ART proposal is in line with the intent of the TPA's 561 Plan.

## B. ART CASE STUDIES



**FIGURE 4.2 THE SEATTLE LINK LIGHT RAIL**

Transit rail systems in major cities provide notable examples of how effective and well-planned public transportation can make a significant difference. These rail systems, like the Seattle Link Light Rail, Miami's Metrorail Orange Line, Minneapolis' Blue Line, Toronto's Union Pearson Express, and Denver's A Line, show how trains can connect downtown areas to airports, make travel easier, help neighborhoods grow, encourage development around transit hubs. They also create jobs and boost the economy. Even though Palm Beach is a smaller city, they can learn from these examples and adapt their ideas to fit the community. By focusing on simple, smart routes and good connections, the community can build a system that works for everyone. These examples inspire the community to create a transit system that supports growth, improves travel, and meets the needs of Palm Beach. Through the report it explores how these lessons shape our recommendations for the project's routes.

### **Seattle Link Light Rail**

The Seattle Link Light Rail, formerly known as "Central Link," opened on July

18, 2009, connecting downtown Seattle's Westlake Station to Tukwila International Boulevard near Sea-Tac Airport. It was extended to Sea-Tac Airport in December 2009, followed by a northern extension to the University of Washington in March 2016 and a southern extension to Angle Lake in September 2016. The line is part of Sound Transit's Central Puget Sound Regional Transit Authority light rail system.

#### Cost of Construction:

The construction cost of the 1 Line from Westlake Station to Tukwila, at about \$2.57 billion. Sound Transit is counting on more than \$1.4 billion in federal grant money to help build the light-rail system. The agency signed an agreement with the Federal Transit Administration (FTA) in January that promises \$500 million between now and 2006. In 2011, the operating and maintenance (O&M) cost of the combined Central Link Initial Segment and Airport Link rail line was \$47.7 million.

#### Service Frequency and Ridership:

The 1 Line operates 20 hours per day on weekdays and Saturdays, with service starting at 4:00 AM and ending at 1:30 AM. On Sundays, it runs from 5:00 AM to 12:30

AM. Average headways are 8 minutes during peak hours and 10-15 minutes at other times. Fares are set at a flat rate of \$3 for adults, \$1 for passengers eligible for reduced fares, and free for individuals 18 years old or younger. In 2023, the 1 Line carried over 26 million passengers, averaging nearly 80,000 riders on weekdays.

#### Transit-Oriented Development (TOD):

TOD promotes vibrant, livable neighborhoods by integrating affordable housing, retail, and community spaces near 1 Line transit, enhancing access and opportunities for all. By planning transit stations that foster livable communities, construction sites can be transformed into hubs of TOD, supporting housing, jobs, and public spaces. The Mount Baker Station TOD at the East Portal Site exemplifies this vision, with city plans to develop parcels for affordable housing, childcare, and an early education research facility.



**FIGURE 4.3 SEATTLE LINK MAP**



**FIGURE 4.4 METRORAIL TRANSIT STATION**

#### **METRORAIL ORANGE LINE EXTENSION**

The Orange Line of the Metrorail is an extension of the existing public transport connecting Downtown Miami and Miami International Airport (MIA). It opened in 2012. This extension was intended to provide an access between the airport and central Miami and to reduce traffic congestion. The station is opened to the

public and provides alternative transportation in Public Bus, Tri-Rail, and Uber.

#### Cost of Construction:

The extension cost a little over \$500 million to complete. The elevated tracks from Earlington Heights to the Airport, Construction of the Miami Airport Station,

and safety and security upgrades to the tracks and its surrounding areas are all what caused this high cost.

#### Service Frequency and Ridership:

The Metrorail Orange line runs from Miami Dade County (Government Center Station) to Miami International Airport (MIA). The 2.4-mile route is elevated from Earlington Heights to the airport. During peak hours (weekdays, mornings, and afternoons) trains run every 10-15 minutes. Trains operate on a half hour schedule during off peak hours (Weekends). 30,000 daily riders, including airport passengers, drive the Orange line, which also serves those working at Miami International Airport. It has helped to lower traffic on local highways such as I95 and State Road 836. Tickets start at 2.25.

**Transit-Oriented Development (TOD):** A key factor in improving Miami's transit system is integrating residential units with transit infrastructure. This approach can ease road congestion by offering a direct connection between downtown and congestion by offering a direct connection between downtown and the



**FIGURE 4.5 METRORAIL MAP**

airport while promoting sustainable urban development through alternative transportation options for nearby residents. Additionally, it could serve as a model for future transportation projects.



**FIGURE 4.6 THE BLUE LINE**

#### **THE BLUE LINE**

The Blue Line, previously known as the Hiawatha Line, serves as a light rail route that links downtown Minneapolis to

Minneapolis-St. Paul International Airport. Operated by Metro Transit, the public transit authority for the Twin Cities region of Minnesota. Funded through a

Minneapolis-St. Paul International Airport. Operated by Metro Transit, the public transit authority for the Twin Cities region of Minnesota. Funded through a combination of federal, state, and local sources; the Blue Line officially opened on April 8, 2004.

#### Cost of Construction:

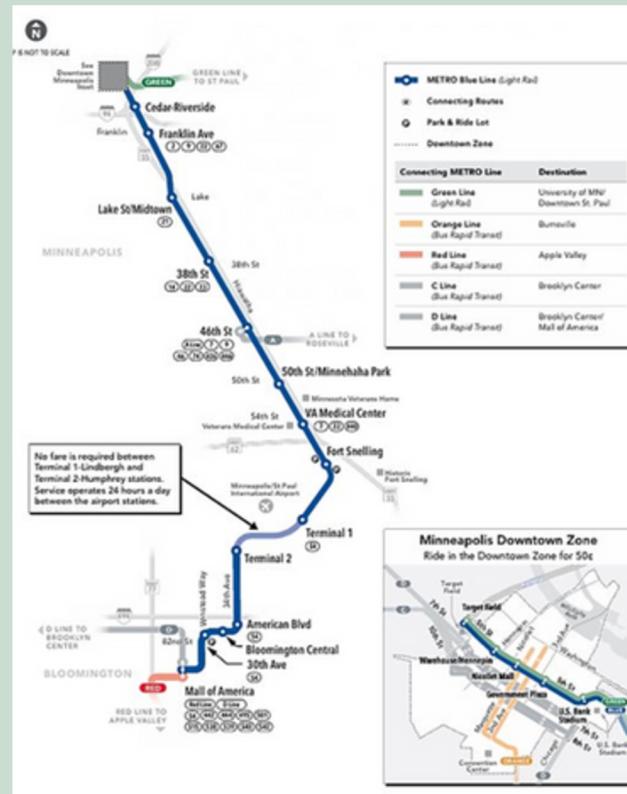
The total cost of the Blue Line was approximately \$715 million. This figure includes expenses related to construction, land acquisition, and other associated costs.

#### Service Frequency and Ridership:

Stretching approximately 12 miles, the Blue Line provides a convenient and efficient transportation option for daily commuters, tourists, and travelers. The line features several stops that connect key locations, from Target Field Station in downtown Minneapolis to the Minneapolis-St. Paul (MSP) International Airport (Terminals 1 and 2), with several stops, including major destinations such as Nicollet Mall, the Mall of America, and the Fort Snelling area. Between 2005 and 2019, ridership increased from about four (4) million to over seven (7) million.

#### Transit-Oriented Development (TOD):

TOD along the Blue Line showcase transit-oriented growth, including Cedar-Riverside, which blends housing and commercial spaces; Greenway Station, offering apartments, offices, and retail near Lake Street and Midtown; Downtown East, enhancing connectivity with mixed-use spaces around the US Bank Stadium; and The Hub, combining student housing and retail near Lake Street station. These projects highlight the focus on mixed-use, accessible designs to promote sustainable urban living and public transit use. These developments are designed to reduce reliance on



**FIGURE 4.7 THE BLUE LINE MAP**

automobiles, promote walking and biking, and enhance the overall transit experience for residents and visitors.

#### **The Union Pearson Express (UP Express)**

The UP Express is a dedicated rail service connecting Toronto Pearson International Airport with Union Station in downtown Toronto. The UP Express opened in June 2015, connecting downtown Toronto with Pearson Airport. With stops at Union Station, Bloor Station, Weston Station, and Pearson Airport. It aims to reduce road congestion and provide a sustainable alternative to car travel.

#### Cost of Construction:

The total cost of building the Union Pearson Express was approximately CAD 456 million. This includes the costs associated with constructing the rail line, upgrading the stations, and purchasing the trains. The project was funded by the Government of Ontario, primarily through



**FIGURE 4.8 THE UNION PEARSON EXPRESS (UP EXPRESS)**

Metrolinx, the regional transit authority. Additional funding came from federal and municipal sources, as well as public-private partnerships. The annual cost to operate UP Express was approximately CAD 63 million, but specific current figures are not publicly available.

Service Frequency and Ridership:

The UP Express operates with high frequency, with trains departing every 15 minutes from 5:30 AM to 1:00 AM daily. The total travel time from Union Station to Pearson International Airport is approximately 25 minutes, making it one of the fastest options to get to the airport from downtown Toronto. After its launch

in June 2015, UP Express initially struggled to attract riders. Ridership has seen significant growth since its launch. In the fiscal year ending March 2018, 3.5 million passengers (about twice the population of Nebraska) used the UP Express, compared to 2.76 million the previous Presto card. Despite record ridership, UP Express still requires an operating subsidy, as it does not generate enough revenue to break even.

Transit-Oriented Development (TOD):

The development around Weston Station has spurred the construction of new residential buildings and commercial spaces, revitalized the neighborhood, and

attracted more commuters to use the UP Express. Bloor Station is another key TOD area, where ongoing projects aim to create a more integrated and accessible transit hub. With the planned Mount Dennis Station, there is significant potential for further TOD projects. The station is expected to anchor new residential and commercial developments,



**FIGURE 4.9 THE UP EXPRESS MAP**

linked to the upcoming Eglinton Crosstown LRT, promoting increased transit use in the area.

### **DENVER, COLORADO – THE A LINE**

The A Line, Denver, Colorado opened in 2016. This is a 23-mile commuter rail connecting Denver International Airport (DIA) to downtown Denver in just 37 minutes, with stops at eight stations along the route.

#### Cost of Construction:

The A Line's construction cost approximately \$1.2 billion as part of the larger Eagle P3 project, which also included the G Line, averaging around \$60 million per mile. Funded through a public-private partnership, the project not only delivered critical transit infrastructure but also created thousands

of jobs and stimulated significant economic growth in Denver.

#### Service Frequency and Ridership:

The A Line operates every 15 minutes from 6 a.m. to 8 p.m. and every 30 minutes during off-peak hours, serving an average of 24,000 daily riders. With a capacity of 170 passengers per train and a maximum speed of 79 mph.

#### Transit-Oriented Development (TOD):

The A Line serves as a vital connector between downtown Denver and Denver International Airport (DIA), facilitating TOD at several stations and driving economic growth. This project highlights the benefits of public-private partnerships and underscores the critical role of transit in fostering sustainable urban planning.



**FIGURE 4.10 THE A LINE**

## D. SUMMARY



**FIGURE 4.14 TRACKLESS TRAM**

The redevelopment proposed for the subject site, is transformative, incorporating a mixed-use development strategy which increases population density, housing choice and economic activity. With the desire for walkability and sustainability and the potential for redevelopment, increased transportation needs follow naturally. To address also this key challenge of community connectivity the redevelopment proposes a variety of multifamily housing units, industrial and office spaces and public amenities.

In addition, the redevelopment is designed to elevate resident quality of life through prioritizing green spaces, spurring economic development and advancing a livable urban environment. The project also focuses on building an inclusive community with access to many income levels and lifestyle needs, serving as a vibrant hub for living, working and recreation.

These mixed land use patterns and projected population rise increase the

need for a dependable and effectual transit alternative to diminish the reliance on private cars, decrease traffic congestion during peak times, and link major destinations, for example the airport and downtown West Palm Beach. To overcome these problems, this section proposes a solution for building an Autonomous Rail Rapid Transit (ART) system, a sustainable public transportation system to satisfy the current and future public transportation needs in the area.

The Trackless Tram is a cutting edge transit solution which possesses the advantages of both conventional light rail and bus systems. The ART system runs on dedicated lanes that guarantee reliability, shortened travel times and a reduction of pollution. Integrating this transit option into the redevelopment not only addresses immediate transportation needs but provides the essential framework to position this area for a long term vision of connectivity, economic vitality and sustainability.

# PROPOSAL

## A. INTRODUCTION

The proposal scenario for the Palm Beach Kennel Club site redevelopment is based on the analysis and lessons compiled in this report. We have developed a strategy built upon examining the historical importance of the site, current conditions, and potential development scenarios, balancing the community's goals with sustainability, connectivity, and economic growth. The idea behind the proposal is based on key takeaways from the analysis, which include the importance of mixed-use development to address affordable housing, green spaces with biophilic design for environmental resiliency, and enhanced transit options for mobility and accessibility.

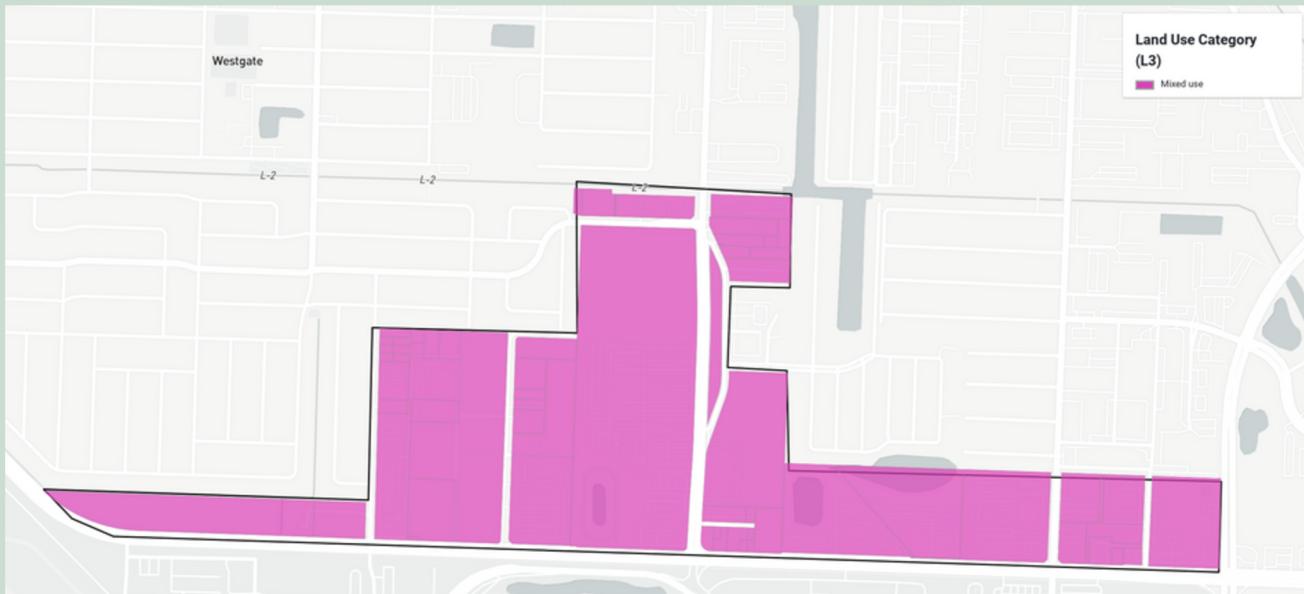
Our proposal is unique because it hits the balance between practical and practical. This proposal focuses on a mixed-use development approach with residential, commercial, and industrial uses combined with public amenities, green infrastructure, and a strong transit network to meet the needs of a wide range of people and provide economic vitality. The workforce housing integrates directly into an affordability gap, and the focus on sustainability in green roofs, rain gardens, and

permeable pavements gives back for the long term.

The proposal aims to generate the best possible results through a vibrant, inclusive, and pedestrian-friendly environment that would attract residents, businesses, and visitors. In contrast to most other approaches, which usually concentrate on just one dimension, our balanced approach provides an integrated treatment of the economic, social, and environmental factors. This is not just a redevelopment plan. This is a blueprint for transforming the site into a vibrant hub for the community, one that can also serve today's neighbors and future generations. Our proposal combines innovative design with sustainable practices and practical solutions for the site to reach its full potential and to be a model for sustainable urban development in the region.

# PROPOSAL

## B. RECOMMENDED SCENARIO



**FIGURE 5.1 RECOMMENDED SCENARIO**

The most feasible option would be the industrial/office/Res mixed-use (MXD) scenario as our recommended scenario. The subject site will offer a dynamic industrial/office/residential mixed-use environment with an active complete street experience, featuring varied residential dwelling units, a variety of local commercial and industrial tenants, indoor and outdoor entertainment, and food and beverage options. The intersection of Belvedere Boulevard and Congress Avenue will become the heart

of the site that attracts local residents and tourists, that of which buzzes with lively street activity.

In this scenario, mixed-use development provides for housing but also provides economic development potential. Incorporating residential in addition to industrial and office spaces would create many opportunities for job creation in diverse sectors. The logistics and warehousing, with a bit of light manufacturing, will be driven by the fact



**RETAIL, OFFICE, AND  
INDUSTRIAL BUILDING AREA**  
2,760,010



**HOUSING UNITS**  
10,921



**POPULATION**  
18,509



**EMPLOYMENT**  
6,826



**FIGURE 5.2 TRACKLESS TRAM**

the site is close to the airport. Depending on the business requirements and organization's needs, businesses would find office spaces catering to regional and international connectivity, like corporate headquarters to either startup. However, these job opportunities will create an economic boom, enticing local professionals and businesses to develop and sustain smaller companies such as retail and dining options.

The proposed scenario and urban design recommendations have aesthetics, functionality, sustainability, and biophilic design concepts at their core. The site will be landscaped thoughtfully and incorporate streetscaping, open green spaces, and pocket parks that will encourage social interaction. Active streetfronts will allow people to want to live, work, and visit the area. Sustainability shall be a crucial component of the proposed scenario. The development shall incorporate LEED and energy-efficient construction options to reduce environmental impact while maintaining long-term viability. In addition to broader sustainability goals, the redevelopment shall focus on resilience against climate change through biophilic concepts.

Housing in close proximity reduces commute times, increases efficiency, and

encourages our proposed sustainability efforts. The subject area shall be built upon the key concept of walkability. Pedestrian-friendly streetscapes, wide sidewalks, and crosswalks shall encourage walking and biking. Local amenities will be easily accessible. This proposal also encourages the integration of a trackless tram system that will connect the subject site to downtown West Palm Beach. This will provide a seamless connection for residents, workers, and visitors alike, that of which will decrease dependency on personal vehicle use. The trackless tram would provide tourists traveling for business or pleasure with a direct and eco-friendly transit option.

Finally, the redevelopment of the subject site in accordance with the proposed Industrial/Office/Res MXD scenario presents an important opportunity to better the area and region altogether. The proposal addresses the housing and job shortage through the integration of mixed residential dwelling units, commercial and industrial spaces, and biophilic design concepts, all of which will spike economic growth in the region. This proposal allows for the connection of residents and businesses to downtown and the airport via the integration of a trackless tram system, improving accessibility and livability. This is not only the redevelopment of a site; this builds a sustainable and vibrant future for the city and its residents.

## C. RECOMMENDED AUTONOMOUS RAIL RAPID TRANSIT (ART)



**FIGURE 5.3 PROPOSED TRACKLESS TRANSIT MAP**

The projected rise in population and mixed Downtown and PBIA. Due to its length and land-use patterns highlights the demand for potential street infrastructure needs, the a reliable and efficient transit solution to entire system may require a significant intial reduce dependency on private vehicles, investment; however, the system's alleviate traffic congestion, and connect key scalability and operational efficiency ensure destinations like the airport and downtown cost-effectiveness over time.

West Palm Beach. To address these issues,

this section outlines a phased These costs are substantially lower than recommendation for implementing an those for traditional rail systems of similar Autonomous Rail Rapid Transit (ART) system scale, which often exceed \$1 billion in as the backbone of a sustainable public capital expenses alone. The ART system's transportation network, designed to meet lower cost is attributed to its lack of physical both current and future needs of the area. tracks, reduced infrastructure requirements, and efficient electric operation. By

As depicted in figure 5.3, the proposal combining technical adaptability with cost-includes routes mapped out by the Palm efficiency, ART emerges as an ideal solution Beach Transportation Planning Agency (TPA). to address the transportation challenges in The proposed route programs stops at key the study area. Its ability to integrate with sites within Palm Beach County and the City the region's urban planning goals while of West Palm Beach to include maintaining financial sustainability ensures



**FIGURE 5.5 TRACKLESS TRAM**

it is well-suited for both current and future mobility needs.

#### **APPROXIMATE COST OF CONSTRUCTION**

- Cost per mile: \$10–\$15 million
- Approximate total cost: \$200–\$300 million; includes additional ART vehicles, hub stations, and expanded virtual track systems.

#### **ANNUAL OPERATIONAL COSTS**

- Estimated operation and maintenance: \$6–\$8 million; accounts for increased fleet size, longer routes, and expanded maintenance facilities.

ART represents a viable and forward-thinking approach to addressing the transportation challenges of the study area. By leveraging the lessons learned from the case studies, the proposed ART system can be tailored to meet the unique needs of the the subject area, and supporting long-term sustainability and growth of the local community and region.

## D. URBAN DESIGN AND SITE RECOMMENDATIONS

When implementing pedestrian and Transit Oriented Design (TOD) principles (Figure 4.4), this proposal presents several recommendations that may be implemented throughout the subject site (Ewing & Bartholomew, 2013). These features include:

- Public art installations such as murals or sculptures can enhance the corridor's aesthetics and cultural vibrancy. Creative elements in an environment can serve as markers, fostering artistic expression and a sense of place.
- Community gardens along the corridor can help communities produce sustainable food and create green spaces. These elements promote community engagement, well-being, and environmental responsibility.
- Establishing pop-up markets or events would activate the corridor and attract tourists. By developing these places, the corridor can become a lively center of activity, attracting people to temporary markets or events.

- Bike-sharing or bike rental schemes can encourage active transportation and mobility options for locals and tourists. This campaign will promote a healthier lifestyle and reduce corridor traffic.
- Outdoor fitness features like exercise stations or equipment around the corridor may encourage residents and visitors to exercise and stay healthy.
- Cultural heritage interpretation uses interpretative signs, plaques, or digital displays to teach travelers and residents about the corridor's history and culture. This aspect deepens recognition of the region's cultural heritage and boosts group identity.
- Programming community events such as art walks, street festivals, and live concerts can foster community involvement and social cohesiveness.

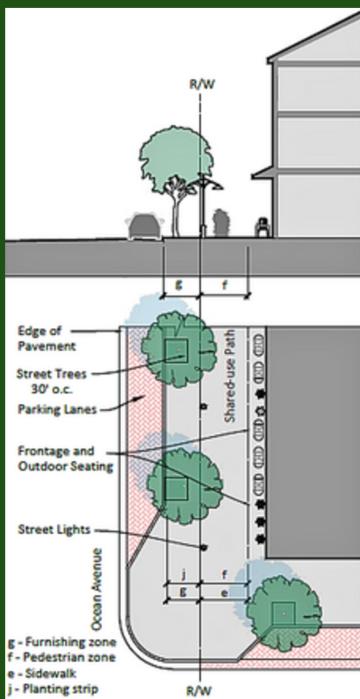
These improvements will help build a strong community and vibrant social scene that will revitalize and assist local businesses and artists throughout the region.



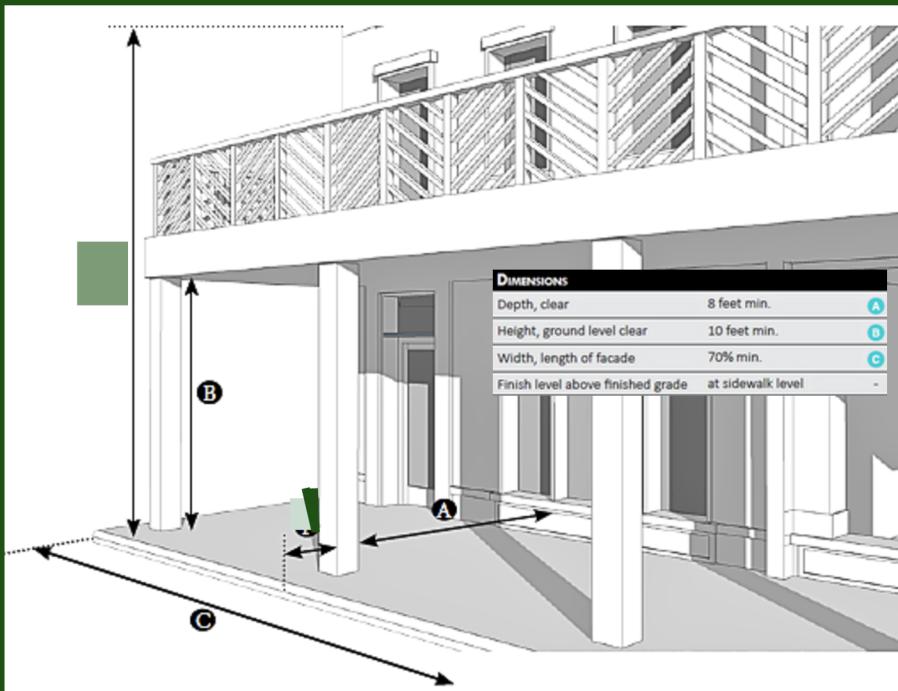
**FIGURE 5.6 RENDERING OF COMPLETE STREET DESIGN**

## E. URBAN DESIGN GUIDELINES

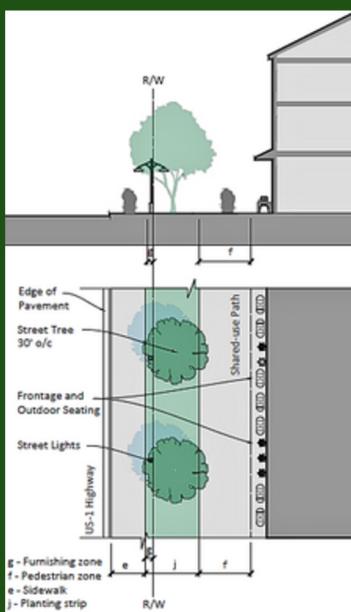
These guidelines will help direct the area's aesthetic development in a way that is both aesthetically attractive for pedestrians and supportive of the county's overarching design objective. Nonconventional designs that vary from established principles or classic building typologies may be considered, provided they correspond to the following defined Urban Design objectives.



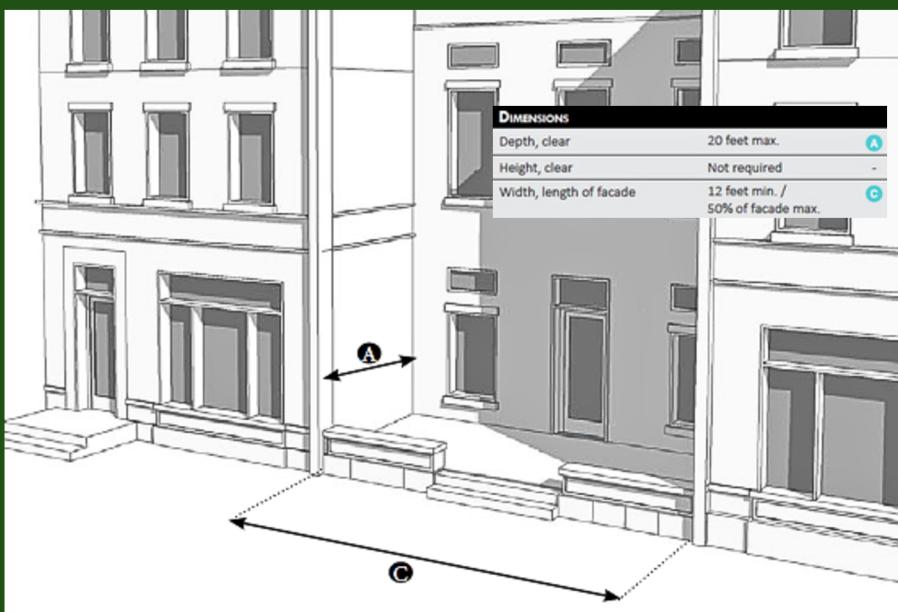
**FIGURE 5.7 PRIMARY STREETS STREETSCAPING**



**FIGURE 5.8 ARCADE FRONTAGE**



**FIGURE 5.9 SECONDARY STREETS STREETSCAPING**



**FIGURE 5.10 FORECOURT FRONTAGE**

**TABLE 5.9 URBAN PLANNING GUIDELINES**

PARAMETERS	REQUIREMENTS
<b>LAND USE</b>	<p>The zoning regulations in Palm Beach County and West Palm Beach are primarily characterized by commercial and mixed-use designations, facilitating a blend of retail establishments, office environments, and residential units. A linear park, characterized by its aesthetically pleasing landscaping, will interconnect significant developments and public spaces within the vicinity. The subject area will incorporate unique concepts and lifestyle activities to highlight the current downtown environment that encircles it. The Urban Design Guidelines are intended to fulfill the following objectives:</p> <ul style="list-style-type: none"><li>• The design ensures accessibility and facilitates uninterrupted connectivity across various developments, regardless of weather conditions.</li><li>• The streetscape, characterized by its attractiveness and vibrancy, will promote innovative design, a diversity of building forms, engaging public spaces, and a range of active users throughout the entirety of the street and linear park.</li></ul>
<b>ACTIVE BUILDING FRONTS</b>	<p>To establish lively areas, appealing and easily accessible streets, activity-generating uses (AGU), such as retail and food &amp; beverage establishments, will be implemented at the designated locations:</p> <ul style="list-style-type: none"><li>• The first level of development is situated along the complete streets (A-streets), linear park, secondary streets (B-streets), and public spaces.</li><li>• Outdoor dining areas (ORA) and outdoor kiosks are encouraged in courtyards and open plazas that are directly in front of the linear park and next to the public pedestrian network. The ORA's scale and design, if any structures are present, are intended to harmonize with the neighboring building.<ul style="list-style-type: none"><li>◦ To prevent encroachment onto the adjacent pedestrian thoroughfares, it is important to clearly distinguish ORAs. This can be achieved by implementing measures such as using distinct floor finishes or planters.</li></ul></li><li>• Commercial entrances will be differentiated from residential entries by integrated signage, material, color changes, or elevating the residential entry.</li><li>• Minimum length of frontages without any active entries.</li><li>• Upper-level balconies will be strategically integrated to facilitate interaction between private and public areas.</li></ul>

PARAMETERS	REQUIREMENTS
<b>BUILDING HEIGHT</b>	<p>Distinct building heights shall be designated for each block to establish a multi-layered, three-dimensional skyline profile to adapt to the unique surroundings and enhance the identity of the neighborhood. The overall maximum permissible construction height is four floors.</p> <ul style="list-style-type: none"> <li>• In residential developments, to provide varied designs, a building height that is equal to the maximum permissible height is allowed.</li> </ul>
<b>BUILDING SETBACK AND BUILDING EDGE</b>	<p>A building that is in harmony with the urban environment, its immediate surroundings, and the activities of the people nearby contributes to the cohesion and distinctiveness of the neighborhood. The correlation between areas with small, intricately designed structures and areas with huge, expansive structures can be more balanced if the shift in building height and size between these areas is carefully and purposefully controlled.</p>  <p><b>FIGURE 5.11 STREET SECTION</b></p> <ul style="list-style-type: none"> <li>• The layout of the buildings will create mid-block open areas while reducing their negative effects on light and privacy.</li> <li>• The scale and massing of the building will be in proportion to the size and scale of the existing buildings.</li> <li>• Implementing setbacks and side terracing will effectively mitigate the negative effects of reduced light and air on neighboring structures while also enhancing the aesthetic appeal of the side facades.</li> <li>• A minimum 15-foot setback above the second level is required. Elevated setbacks are also required when a building, regardless of its height, is adjacent to residential.</li> </ul> <p>Buildings that possess a significant degree of transparency and visually appealing lighting will contribute to a lively and diverse streetscape.</p>

PARAMETERS	REQUIREMENTS
<b>BUILDING ELEMENTS</b>	<p>The signage and illumination will be strategically combined to effectively communicate information at a size and level that is easily understood by humans, while also improving the overall appearance and quality of the public space.</p> <ul style="list-style-type: none"> <li>• The luminosity of building signage and lights can be adjusted to lower levels or varied in terms of hue.</li> <li>• The signs will be positioned and dimensioned to match the proportions of pedestrians, to avoid overpowering the building exterior. They will also be crafted to mirror the specific characteristics and aesthetic preferences of their intended users.</li> <li>• Where there are multiple aspects or purposes on a facade, signage and canopies will suitably depict the hierarchy of entrances and information.</li> </ul>
<b>SUSTAINABILITY GUIDELINES</b>	<p>Implementing conscientious architectural design principles helps mitigate the adverse ecological consequences of construction. This website will employ construction materials and techniques that promote resource conservation, minimize carbon emissions, and contribute to the preservation of natural ecosystems.</p> <ul style="list-style-type: none"> <li>• Construction materials composed of recycled or renewable resources will be utilized. And whenever feasible, existing site or construction resources will be incorporated.</li> <li>• Passive solar design principles will be implemented, to include architectural structures that generate sustainable power from rooftops using solar panels or other renewable energy sources.</li> <li>• The arrangement of windows and skylights will be designed to maximize the amount of natural light entering the space.</li> <li>• Establish daylit living and working spaces to save energy consumption.</li> <li>• Implement natural ventilation systems to minimize energy consumption and facilitate airflow.</li> <li>• Promote the establishment of a welcoming flow of movement to decrease dependence on elevators and escalators.</li> <li>• Recycled permeable and/or concrete pavement materials will be utilized for constructing curbs or benches to enclose newly planted areas.</li> <li>• The Linear Park shall be constructed as a dry retention pond, serving the community multifacetedly.</li> </ul> 

**FIGURE 5.12 DRY RETENTION POND EXAMPLE**

PARAMETERS	REQUIREMENTS
<b>PUBLIC SPACE/ COURTYARDS</b>	<p>Providing public areas for both tourists and residents to enjoy is crucial. The implementation of complete streets involves integrating public open spaces inside the development site to facilitate activities that enhance the liveliness of the street. High levels of visual and physical porosity are required in the landscaping of these open areas.</p> <p>The design of these public spaces should prioritize their suitability for hosting events and ensure that they are always accessible to the public. The first level's main pedestrian routes—such as the linear park and nearby covered and open walkways—must be connected to them via block linkages.</p>  <p><b>FIGURE 5.13 COMMUNITY GARDEN RENDERING</b></p>
<b>PUBLIC TRANSIT AND LINKAGE</b>	<p>The overall site design will incorporate the installation of ART, encourage bike use, reduce the demand for car usage and storage, and enhance a lively street life, especially when combined with facilities like bike repair, sales, or other commercial activities.</p> <ul style="list-style-type: none"> <li>The proposal programs bike racks near building entrances and other areas of activity to optimize visibility and convenience.</li> <li>Links and uses will accommodate all forms of transportation.</li> <li>The proposal offers wider walkways to enable covered seating in inclement weather and real-time bus stop scheduling for commuters.</li> </ul>
<b>BUILDING FORM AND MASSING</b>	<p>Structures will be designed to enhance the pedestrian experience within the area of focus and its adjacent urban environment. The design of the structures will take into account the dimensions, form, and architectural characteristics of the surrounding buildings and the nearby airport. The architectural design of the building takes into account its form, massing, and overall appearance. Furthermore, the perception of the design from various perspectives, including significant open areas and the linear park, will be examined. Moreover, the design will seek to create visually appealing and varied shopfronts along the linear park.</p>

PARAMETERS	REQUIREMENTS
<b>NEIGHBORHOOD CHARACTER</b>	<p>The subject area should convey and demonstrate the unique culture and character of the community through its public spaces. Inclusivity, interactivity, and accessibility are essential characteristics of open spaces. Programming and arrangement of spaces and amenities shall be tailored to the unique needs of the community to facilitate and support a variety of activities and events.</p> <ul style="list-style-type: none"> <li>• Activities and events shall be designed and curated in collaboration with local companies, residents, and cultural leaders.</li> <li>• Children and dogs will have designated play areas.</li> <li>• The integration of art, murals, and local artifacts will be emphasized as prominent public aspects.</li> </ul>
<b>LANDSCAPING/ ROOFSCAPE</b>	<p>Implementing sustainable and habitat-friendly landscaping, together with other green infrastructure features, will effectively enhance local biodiversity, as well as conserve water and energy. The landscaping will offer the public a distinctive and enhanced natural experience inside the urban environment. Trees and vegetation flourish in larger soil wells or trenches as they may establish root systems more organically and obtain improved access to replenishing water.</p> <ul style="list-style-type: none"> <li>• The landscape features alongside sidewalks will provide shade, a regular pattern of walking, a varied texture and smaller size, a feeling of being enclosed by the roadway, and a gentle barrier from traffic.</li> <li>• The street infrastructure will employ permeable paving to effectively collect runoff and enhance the well-being of street trees.</li> <li>• The roofs of both the high-rise and low-rise buildings will be built to serve as functional outdoor areas. They will be carefully planned to enhance the overall shape, size, architectural style, and contribute to the overall appearance of the skyline.</li> <li>• Every service area, vehicular park, Mechanical &amp; Electrical (M&amp;E) equipment, water tanks, and other components will be seamlessly incorporated into the building's exterior structure and effectively concealed from view from all angles.</li> <li>• Roofs and walls that can support habitat-appropriate plants will be installed.</li> </ul> 

**FIGURE 5.14 PERMEABLE PAVERS EXAMPLE**

PARAMETERS	REQUIREMENTS
<b>SECURITY</b>	<p>The site will be developed with the objective of ensuring that the overall design prioritizes safety and security. Street furniture will be implemented to improve security on the perimeters of buildings when it is deemed appropriate.</p> <p>The site will guarantee the safety of citizens by providing sufficient illumination in public areas and around structures. In order to prevent the formation of contrast or shadows, it is imperative to avoid excessive light levels. Street-facing windows and open spaces will be installed. The selection and construction of plants and tangible objects will be designed to be low-profile in order to facilitate an unobstructed view. Facade designs must refrain from incorporating recesses or concealment areas at street level.</p>
<b>LIGHTING</b>	<p>There will be carefully planned dark sky lighting at the site that will show off the architectural design and structural elements in a way that makes the surrounding urban environment more lively and varied. We will strive to implement sustainable or "dark sky" practices to reduce unnecessary or excessive lighting. We will design the lighting to avoid disturbing neighbors or overwhelming the natural darkness of the night sky. Lighting will enhance the comfort of pedestrians at ground level.</p> 
<b>ACCESS AND SERVICE</b>	<p>It is imperative that the general building entrances be designed to accommodate pedestrians, provide a space for vehicles to drop off passengers, allow access for emergency vehicles, and facilitate service operations. Main building entrances located on main streets or open areas will provide access to pedestrian and vehicular drop-offs. To minimize the visibility of service access from public areas, they should be located on the network of alleyways and minor roads that serve the secondary facades of structures. It is imperative that emergency access be designated plainly and unobstructed.</p>

PARAMETERS	REQUIREMENTS
PEDESTRIAN NETWORK	<p>An intelligently designed pedestrian environment improves general convenience and security, contributes to the prosperity of the community, and enhances pedestrian activity. The design of sidewalks establishes a connection between the public domain and ground-floor activities. This network connects a variety of developments, significant places, and attractions in a convenient, comfortable, and uninterrupted manner, ensuring that pedestrians have the best possible comfort. Shaded walkways enhance the at-grade pedestrian network by providing partially protected pedestrian paths that shield from the weather throughout the year. The covered walkways serve as communal amenities and must be consistently kept free of any obstructions.</p> 

**FIGURE 5.16 PEDESTRIAN INFRASTRUCTURE RENDERING**

# CONCLUSION

## PROJECT VISION AND GOALS

The redevelopment of the Palm Beach Kennel Club area embodies a transformative vision: to create a vibrant mixed-use community that enhances connectivity, sustainability, and inclusivity. This project aims to integrate residential, commercial, and public spaces while prioritizing walkability, public transportation, and green infrastructure. The development seeks to establish a new standard for urban living in West Palm Beach by fostering a sense of community and celebrating local culture.

## KEY FINDINGS AND ANALYSIS RECAP

The analysis identifies the recommended Industrial/Office/Residential Mixed-Use Scenario as the most feasible option. This scenario achieves a balanced approach to economic growth, environmental sustainability, and community needs. Key features include:

- Efficient land use and zoning integration.
- Reduced car dependency through an Autonomous Rail Rapid Transit (ART) system.
- Sustainable design practices, such as permeable pavements and biophilic elements.

These findings highlight the potential to meet both current and future demands in housing, transportation, and employment.



## ANTICIPATED IMPACTS

- Economic Benefits:

The proposed development is expected to create thousands of jobs, attract businesses, and stimulate economic activity in the region. The integration of residential and commercial spaces will support a thriving local economy, while proximity to the airport enhances regional connectivity.

- Social Advantages:

A mix of housing options, including workforce housing, will cater to diverse income groups and foster inclusivity. Community amenities, such as parks and public spaces, will improve the quality of life and promote social cohesion.

- Environmental Gains:

The project emphasizes sustainability through climate-resilient design and reduced vehicle emissions. Green roofs, rain gardens, and expanded public transit will minimize the environmental footprint while improving urban resilience.

## LONG-TERM VISION AND REPLICABILITY

The redevelopment is more than a local improvement—it sets a precedent for sustainable urban planning in similar regions. The emphasis on mixed-use development, walkability, and climate resilience provides a replicable framework for cities facing rapid growth and environmental challenges. Key aspects of the project, such as the ART system and biophilic design, can be scaled and adapted to meet the unique needs of other urban areas.

This vision aligns with global trends in urban development, where compact, connected, and sustainable communities are becoming the gold standard. By integrating innovative solutions into a cohesive plan, the Palm Beach Kennel Club redevelopment demonstrates how to reconcile economic imperatives with environmental stewardship and social equity. It positions West Palm Beach as a leader in sustainable development and a model for cities worldwide.

## CALL TO ACTION

To realize this vision, collaboration among stakeholders is crucial. Local governments, developers, and community members must align efforts to support sustainable practices and equitable growth. The proposed redevelopment not only addresses pressing urban challenges but also sets a foundation for a thriving and inclusive future. With timely implementation and collective commitment, this project can redefine the region's potential and inspire broader urban transformation.