

Table 5: Summary of Existing Zoning Districts

Source: Township of Maplewood, 2022

District	Minimum Lot Area (in SF)	Required Yards (in feet)			Maximum Building Height	Maximum Lot Coverage	Maximum Building Coverage
		Front	Side (one) ^a	Rear			
R-1-4	4,000	25	4	25	2 stories/ 35 ft	45% ^b	30% ^b
R-1-5	5,000	25	5	25	2 stories/ 35 ft ^A	45% ^b	30% ^b
R-1-7	7,000	30	7	25	2 stories/ 35 ft	45% ^b	30% ^b
R-2-4	4,000 for single-family	20	4 for single-family	25	2 stories/ 35 ft	40% for single-family	35% ^b
	5,000 for two-family		5 for two-family			50% for single-family	
RGA	44,000	20 for attached housing	10 for attached housing	25 for attached housing	2 stories/ 35 ft	--	25%
		35 for multiple uses	30 for multiple uses	30 for multiple uses			
CCR	25 acres	40 ft for a one-story building up to 30 ft in height; 50 ft for a two-story building up to 40 ft in height; 100 ft for more than 2 stories or 40 ft ^c			35 ft; up to 50 ft with increased setback	45%	20%
PS	35,000	25	10	50	50 ft	90%	50%
NB	5,000	-	-	15	50 ft; height over 30 ft must be set back ^d	90%	50%
RB	2,500	--	--	15	50 ft; height over 30 ft must be set back	100%	80%
HB	5,000	--	--	15	50 ft; height over 30 ft must be set back	90%	50%
PRB	2,500	None ^e	None ^e	15	50 ft; height over 30 ft must be set back	100%	80%
OB	10,000	15	10	20	40 ft; 80 ft for public purposes	80%	40%
RO	80,000	75	25% of lot width	50 (100 adjoining residential)	50 ft	70%	30%
CI	40,000	25	10	15 (25 adjoining residential)	50 ft	90%	60%
SLI ^f	35,000	25	5 (25 adjoining residential)	15 (25 adjoining residential)	35 ft; 80 ft for office building	--	50%

a For R-1-4, R-1-5, R-1-7, and R-2-4 districts, the required combined side yard is 25% of lot width.

b For lots 12,000 square feet or greater in area, in any district, maximum building coverage shall be 25% and maximum lot coverage shall be 40%.

c Required setback for more than 2 stories or 40 ft is 150 ft from the closest residential property.

d Except for multiple dwellings on South Orange Avenue, which shall have a maximum height of 100 feet above the 460-foot elevation above sea level.

e Except where the lot adjoins a transitional lot, the minimum front yard shall be 50% of that required for the district in which the transitional lot is located, and the minimum side yard shall be a minimum of 15 ft, with required buffering.

f The SLI district is subject to additional provisions for pavement in front yards, distance between buildings, road widths, and driveway and loading areas.

Table 6: Zoning Board of Adjustment Variances Granted, 2015-2021

Source: Township of Maplewood Zoning Board of Adjustment, Annual Reports 2015-2021

Type	Number Approved
Rear Yard/Side Yard Setback	13
Use	11
Front Yard Setback	9
Lot Coverage	4
Minimum Lot Size	2
Building Height	2
Façade Length	1
Fences	1

As shown in Table 6 from 2015 through 2021, the Zoning Board approved a total of 35 variances, with the most common types being use, setbacks, and lot coverage. The Planning Board also produces annual reports, but tabulating variances granted by that board is more difficult, as there are often multiple bulk variances granted as part of site plan approval. However, Planning Board members report that parking is the most common type of variance granted. Signage is also a common variance that appears on annual reports.

Recently Adopted Land Use Ordinances

In the past five years, Maplewood has been active in enacting land use-related ordinances to address a variety of issues. The following ordinances have been reviewed for Master Plan consistency by the Planning Board:

2018

- 2983-18: Permits the installation of a solar energy system within all zones.
- 2895-18: Adds solar collectors as permitted accessory uses.
- 2909-18: Allows single- and two-family homeowners to house one refugee family as boarders.
- 2915-18: Allows medical marijuana alternative treatment centers as a permitted use in the Highway Business and Pedestrian Retail Business districts.
- 2921-18: Adds a mandatory affordable housing set-aside requirement.
- Other ordinances to implement the Housing Element and Fair Share Plan, including a development fee ordinance, creation of an overlay district for the Maplewood Country Club, and an affirmative marketing plan.

2019

- 2972-19: Allows electric vehicle charging stations as an accessory use in all zones.

2020

- 2980-20: Changes the definition of Zoning Officer.
- 3002:20: Allows the occupancy of an accessory dwelling unit in certain residential areas where one person is at least 62 years or older.

2021

- 3014-21: Allows accessory dwelling units in homes designated as historic by the Historic Preservation Commission.
- 3015-21: Recommends omitting reference to a specific AASHTO manual regarding sight triangles and rather referencing current guidelines.
- 3032-21: Re-adopts certain provisions of 2915-18 and makes modifications with regard to alternative treatment centers.
- 3048-21: Adds a chapter regulating cannabis businesses.

2022

- 3055-22: Reduces certain distance requirements for cannabis businesses.
- 3056-22: Reduces the permitted distance between alternative treatment centers.
- 3058-22: Requires the Green Development Checklist for all site plan applications.
- 3059-22: Authorizes and encourages electric vehicle supply/service equipment (EVSE) and make-ready parking spaces.

CIRCULATION AND MOBILITY

Maplewood is situated in southern Essex County, west of the urbanized areas of Newark and Irvington. The Township is within close distance to the Garden State Parkway, I-78, and I-280 highway corridors. It hosts the NJ TRANSIT Morris & Essex Line commuter rail service with a single local station and stations in the neighboring communities of South Orange to the east and Millburn to the west. The vibrant Springfield Avenue (NJ-124) commercial corridor links Maplewood with Newark to the east and Morristown to the west (via Vauxhall, Millburn, Summit, Chatham, and Madison).

Public Transportation

Passenger Rail

Access to the NJ TRANSIT passenger rail network is provided via the Morris & Essex Lines at Maplewood Station, with eastbound service to Newark Broad Street Station, Hoboken Terminal, and New York Penn Station (see Figure 10). Westbound service is provided via the Gladstone Branch (west of Summit) to Gladstone and the Morristown Line to Hackettstown. Weekday rail service operates in Maplewood from approximately 5:00am to 1:00am. Weekend service operates from approximately 6:00am to 2:00am.

Maplewood offers a robust walking/sidewalk network and a significant portion of the Township falls within a walkshed of 15 minutes or less to the rail station (see Figure 11). Areas with longer walk distances of 20+ minutes, notably north of Wyoming Avenue and south of Springfield Avenue, are served by town-operated jitney buses during peak commuting hours (see below). Four surface parking lots offer options for rail station parking with a total capacity of 655 spaces, five of which are accessible. The rail station itself, however, is not ADA-accessible. Station platforms are not elevated, requiring customers to climb steps to board trains, and the station underpass between the eastbound and westbound platforms features stairs only.

Table 7 shows typical weekday NJ TRANSIT rail ridership (passenger boardings) at Maplewood Station from fiscal year 2015-2022. Ridership was consistent for several years prior to the onset of the pandemic, dropping sharply in FY 2021. NJ TRANSIT reports that the second half of FY 2022 showed an upward trend in ridership, which is anticipated to continue into FY 2023.

Table 7: Passenger Ridership at Maplewood Station, FY 2015- FY 2022

Source: NJ TRANSIT, September 2022.

*FY 2021 data reflect a full fiscal year of COVID-19 impacts, while FY 2020 reflects three months of pandemic impacts.

Fiscal Year (ends June 30)	Average Weekday Boardings
2015	3,402
2016	3,492
2017	3,488
2018	3,382
2019	3,418
2020	2,550
2021 *	440
Q1 FY2022	921
Q2 FY2022	1,205
Q3 FY2022	1,032
Q4 FY2022	1,435



Maplewood Station



Maplewood Station

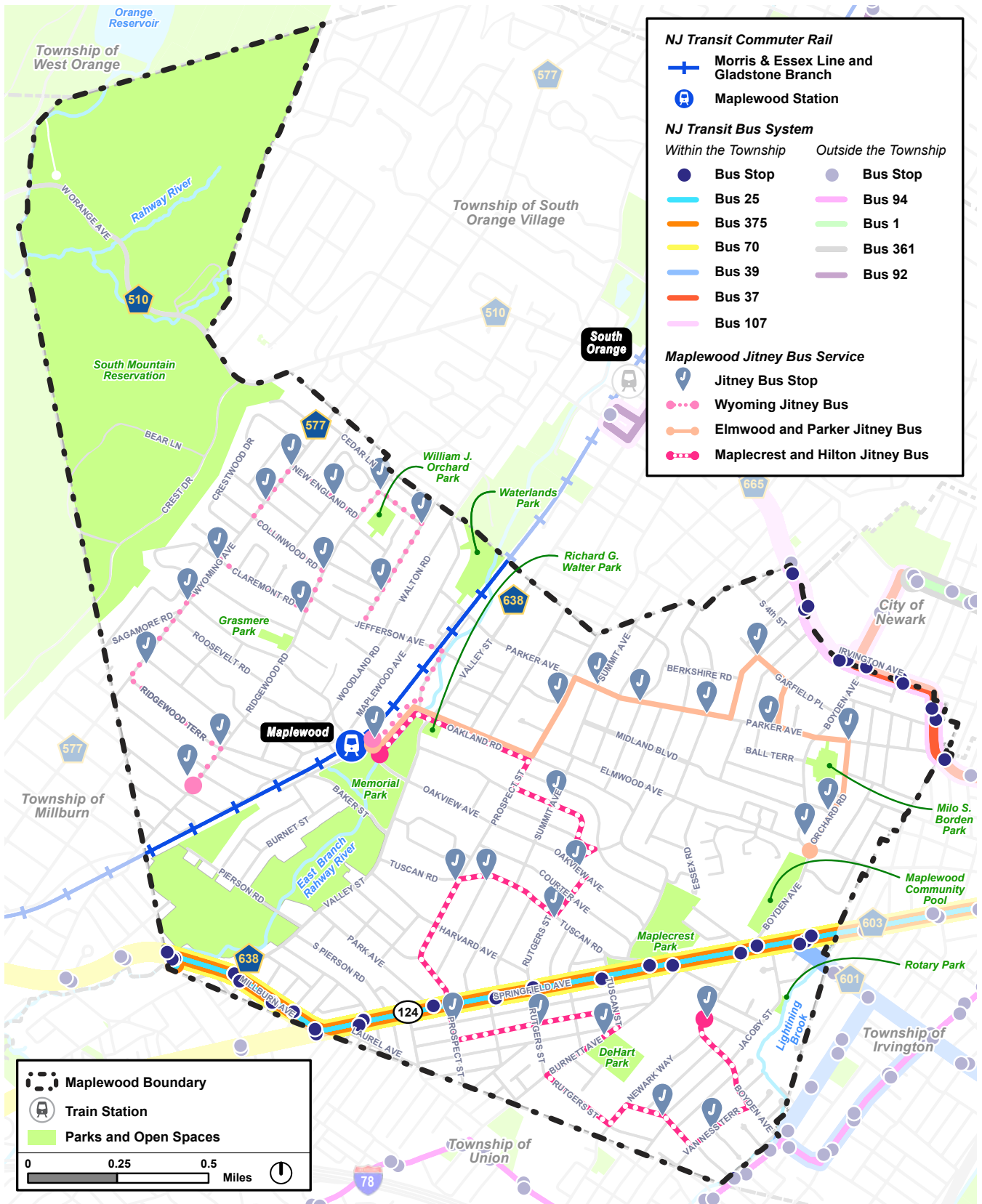


Figure 10: Public Transportation Network

Source: Essex County, USGS, NJ Transit, NJDEP, NJDOT, OpenStreetMap (OSM) Road Network (Exported from Urban Footprint), Township of Maplewood, BfJ Planning.

Bus

Bus services offer another important public transportation option for Maplewood residents and visitors. NJ TRANSIT operates significant service along the Springfield Avenue and Millburn Avenue corridors, including the 25 Springfield Avenue, 375 Springfield Avenue Express, and 70 Newark-Livingston Mall. Roughly one-third of the 25/375 bus trips originate at the Maplewood Loop on Millburn Avenue at the western edge of the Township. Route 70 services continue west to Livingston. Additionally, the 37 Lyons Avenue route offers local service from Maplewood to Newark Liberty International Airport, and the 107 South Orange/Irvington-New York interstate route provides local and express service to the Port Authority Bus Terminal in New York City along Irvington Avenue on Maplewood's northeastern border.

All services operate seven days a week and holidays, from at least 6 am until after 11 pm. These services are part of NJ TRANSIT's Newark service area, including numerous transfer opportunities in Irvington and downtown Newark. Ridership on NJ TRANSIT's local and intrastate bus services have generally rebounded at a faster rate than intercity bus and rail.

Jitney

Since 1997, the Township of Maplewood has operated a commuter jitney (local bus circulator) service to connect residential neighborhoods to the train station. There are three established jitney routes: Maplecrest and Hilton, Elmwood and Parker, and Wyoming. These three routes serve to facilitate use of commuter rail services and mitigate parking demand and congestion downtown.

The jitney service is offered on weekdays, except municipal holidays, with runs during traditional commuting peak periods (6-9 am and 5-9 pm). A single jitney ride costs \$2, and annual passes are available for jitney customers as well as combined jitney and parking fees.

The Township consolidated jitney services in the wake of significant ridership declines during the pandemic. Recently, service was restored to three routes as rail ridership has rebounded. This Township-run jitney service has long been a model in New Jersey and is generally viewed as an important asset to residents. The jitney vehicles, however, are not ADA-accessible. Opportunities exist to pursue grant funding for zero-emissions bus procurement, which at the



Jitney Stop



Village Center Parking Lot

same time may allow the Township to address accessibility of the vehicles (recognizing the current inaccessibility of the train station proper).

Parking

The Township owns 9 parking lots (devoted solely to parking and not associated with another use): five downtown and four along the Springfield Avenue Corridor (see Figure 12). NJ TRANSIT owns two additional lots near the train station. Parking regulations vary by lot, from resident-only commuter permit parking, to time-limited and free parking after morning rush hour and on weekends.

Resident parking permits allow overnight, on-street parking for residents without driveways for \$240 per year. Other combination parking permits can be purchased to include commuter parking and jitney service passes, merchant parking passes, and more. The Township is undertaking an expansion of the ParkMobile app to include commuter payment options.

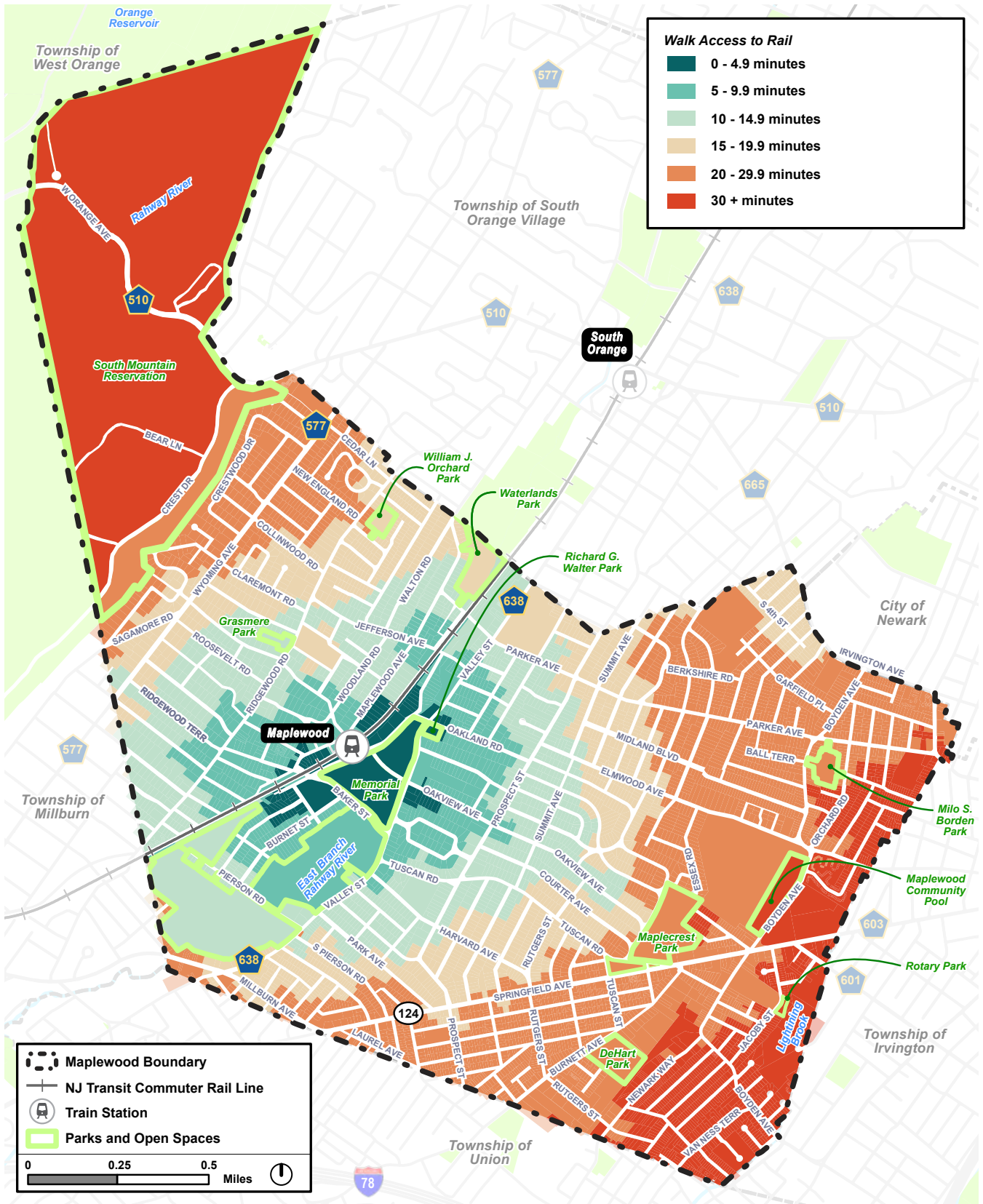


Figure 11: Walk Access to Rail

Source: Essex County, USGS, NJ Transit, NJDEP, NJDOT, OpenStreetMap (OSM) RoadNetwork (Exported from Urban Footprint), Urban Footprint Walk Accessibility Module using data from General Transit Feed Specification (GTFS), BfJ Planning.

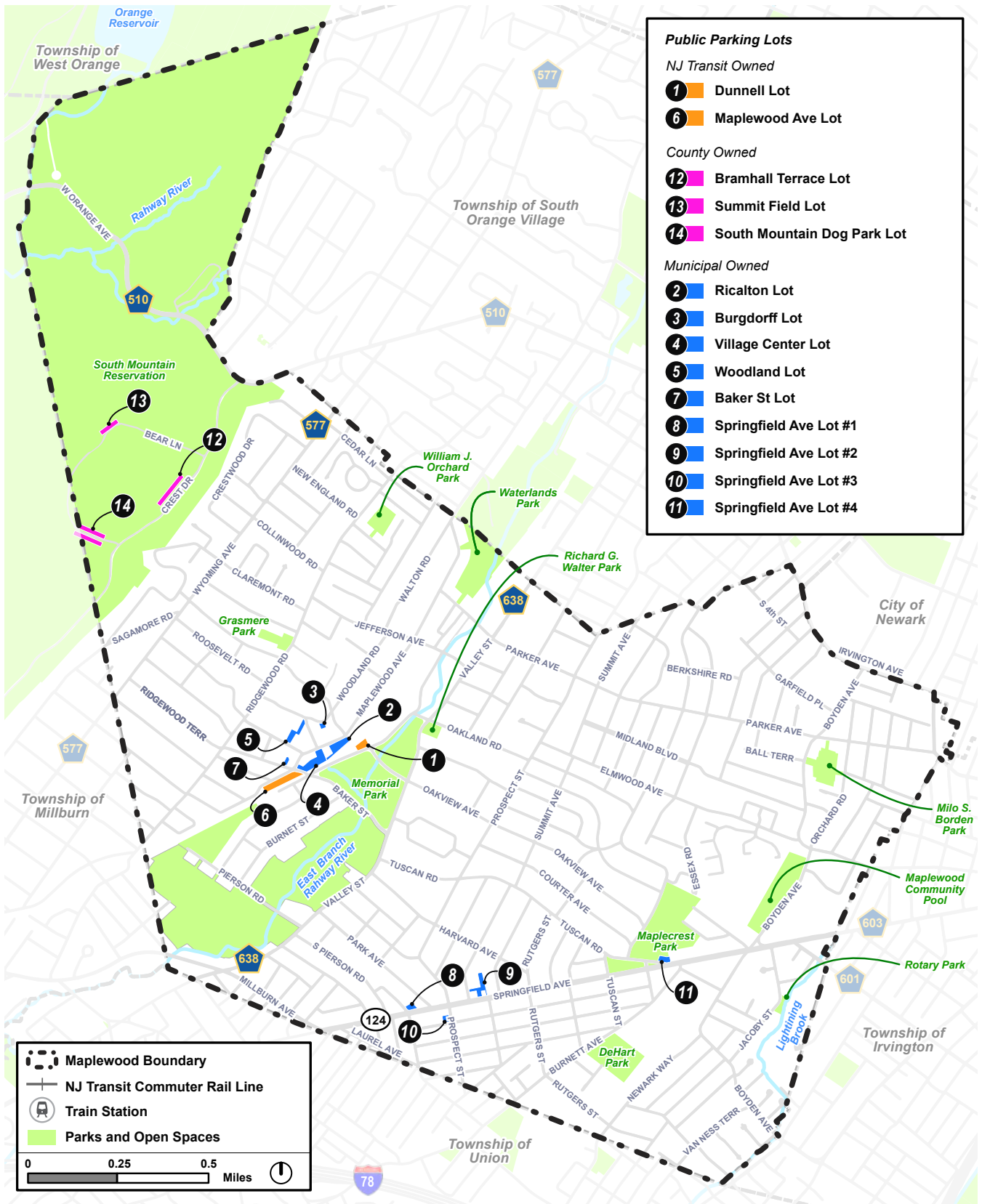


Figure 12: Public Parking

Source: Essex County, USGS, NJ Transit, NJDEP, NJDOT, OpenStreetMap (OSM) Road Network (Exported from Urban Footprint), Springfield Avenue Partnership, Maplewood Village Alliance, Google Maps, BFJ Planning.

Table 8: Public Off-Street Parking Lots

Source: Township of Maplewood, 2022

Name	Owner
Dunnell Lot	NJ TRANSIT
Maplewood Avenue Lot	NJ TRANSIT
Ricalton Lot	Maplewood
Burgdorff Lot	Maplewood
Village Center Lot	Maplewood
Woodland Lot	Maplewood
Baker Street Lot	Maplewood
Springfield Avenue Lot #1	Maplewood
Springfield Avenue Lot #2	Maplewood
Springfield Avenue Lot #3	Maplewood
Springfield Avenue Lot #4	Maplewood
Bramhall Terrace Lot	Essex County
Summit Field Lot	Essex County
South Mountain Dog Park Lot	Essex County

Roadway System

Regional vehicular access to Maplewood is provided from the Garden State Parkway via NJ Route 124 (Springfield Avenue) and I-280 via Valley Street (Scotland Road in South Orange). Essex County roadways include 510 (South Orange Avenue), 577 (Wyoming Avenue), 638 (Valley Street), 630 (Millburn Avenue), 601 (Chancellor Avenue), and 665 (Irvington Avenue). The jurisdiction of Maplewood's road network is shown in Figure 13. Road ownership is important because it affects the Township's ability to undertake improvements or changes and/or informs the level of additional coordination required with Essex County and/or the New Jersey Department of Transportation (NJDOT).

Traffic Safety

Safety on Maplewood's roads represents a concern for all users, from pedestrians to bicyclists to motorists. Crash data were obtained from NJDOT for a three-year period between 2018 and 2020, the most recent data period available. Figure 14 provides a heat map of crash frequency throughout the Township, including pedestrian and bicyclist-related crashes. From 2018-2020, two people were killed on Maplewood roadways and 393 were injured. The fatalities occurred at the intersections of Springfield Avenue and Burnett Avenue and Chancellor Avenue and 44th Street.

The data period includes the impact of the pandemic, which has coincided, on a national level, with a large increase in vehicle crashes and injuries. The reasons for this surge are not yet clear and need future study. This crash analysis is primarily focused on locations that have recurring issues with crashes,

Table 9: Maplewood Intersections with the Most Crash Incidents (2018-2020)

Source: NJDOT Safety Voyager, BFI Planning

Intersection	Injuries	Total Crashes
Boyden Ave. - Boyden Parkway - Springfield Ave	5	21
Prospect St. - Harvard Ave.	5	19
Springfield Ave. - Chancellor Ave.	3	15
Jefferson Ave. - Maplewood Ave.	3	15
Prospect St. - Parker Ave.	2	12
Rutgers St. - Burnett Ave.	5	12
Springfield Ave. - Laurel Ave.	4	11
Millburn Ave. - Valley St.	1	10

as opposed to the change of crash incidents over time. It is assumed that locations shown as crash clusters would have experienced these issues throughout the three-year period, even if there was a particular increase in 2020.

As shown in Figure 14 and Table 9, the Boyden Avenue-Springfield Avenue corridor showed a high incidence of vehicular crashes during the period, including the greatest number of injuries and crashes involving pedestrians (which are of particular concern given the likelihood of serious injury). Prospect Street and Jefferson Street also saw a significant number of crashes. As the map indicates, clusters of crashes occur along the major arterials and at intersections; however, they are not limited to major streets, particularly when involving pedestrians and bicyclists.

Maplewood's roadway network includes numerous offset and angled intersections, which can play a role in crash propensity and severity. Furthermore, many intersections along Springfield Avenue are unsignalized and/or do not include pedestrian crosswalks at all legs of the intersection, increasing risk.

**Intersection at Parker Avenue and Valley Street**

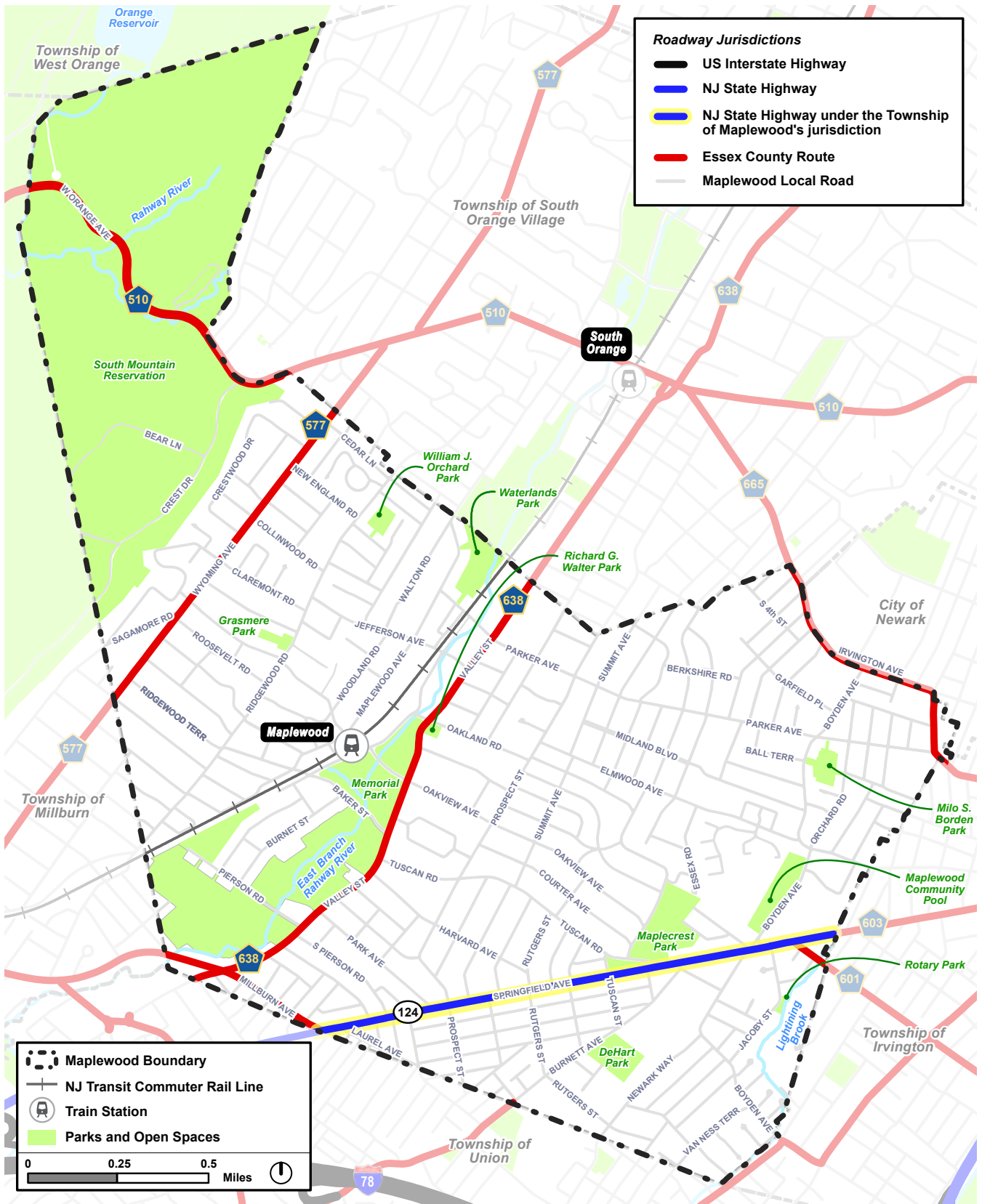


Figure 13: Roadway Jurisdiction

Source: Essex County, USGS, NJ Transit, NJDEP, NJDOT, OpenStreetMap (OSM) Road Network (Exported from Urban Footprint), BfJ Planning.

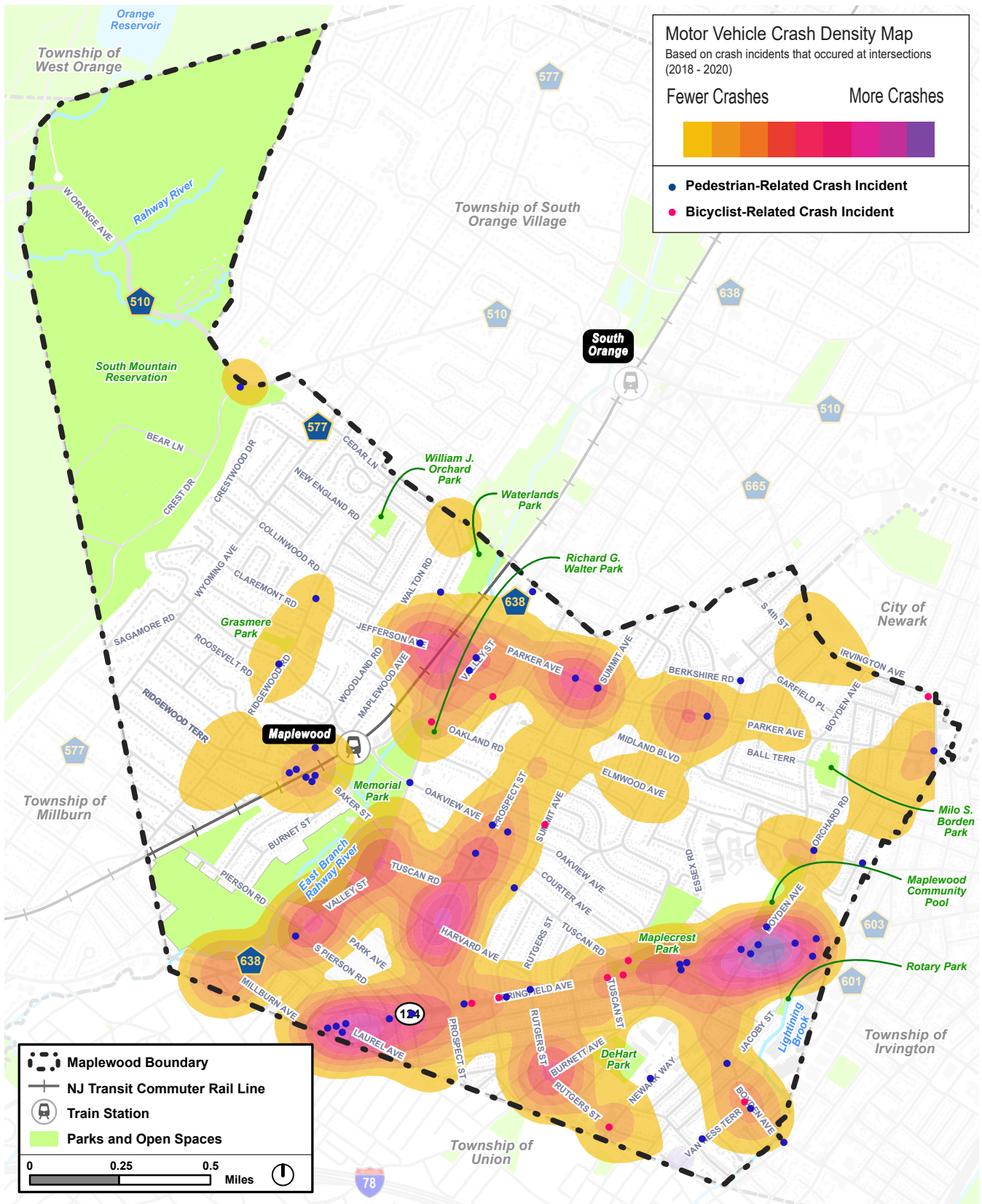


Figure 14: Intersection Crash Density and Pedestrian/Bicyclist-Related Crash Incidents (2018-2020)

Source: Essex County, USGS, NJ Transit, NJDEP, NJDOT Safety Voyager; OpenStreetMap (OSM) Road Network (Exported from Urban Footprint), BFI Planning.

Recent and Planned Roadway Improvements

The Township has advanced numerous roadway and safety improvements in recent years, with more anticipated. Engineering plans for a series of ADA improvements Township-wide were funded with Community Development Block Grant (CDBG) funds in 2021. Maplewood was also among 14 New Jersey municipalities awarded grant funding for infrastructure improvements through the Emergency Solutions Grant program, funded through the U.S. Department of Housing and Urban Development and administered by the Essex County Division of Housing and Community Development.

Other local roadway improvement projects, funded by NJDOT, include striping, sidewalk, ADA, and other enhancements for Jacoby and 44th Streets and Lexington Avenue between Indiana and Tuscan Streets. In addition, the County received a \$3,654,000 grant for safety and operational improvements to the Valley Street corridor through the North Jersey Transportation Planning Authority's (NJTPA) FY 2020 Local Safety Program (LSP). The grant includes funding for construction and construction inspection services. The project will improve safety and overall operations at 11 intersections throughout Maplewood and South Orange. Proposed improvements include signal upgrades, pedestrian signal upgrades, curb extensions, pedestrian refuge islands where feasible, and leading pedestrian interval (LPI) signal phases to enhance safety. Construction is scheduled to begin in March 2023, pending final plan approvals.

Pedestrian and Bicycle Network

Existing Network

Sidewalks are prevalent throughout Maplewood, offering a robust walking network linking the Township's residential and commercial areas, parks, schools, and other attractions. While sidewalk gaps do not represent a significant concern, safe pedestrian crossings at intersections are frequently cited as a local need, along with traffic calming to improve safety for walkers and bicyclists.

Off-street paths are generally limited to local parks, notably within and through Memorial Park, Maplecrest Park, and South Mountain Reservation. A greenway has been

considered along the East Branch of the Rahway River as an off-road link between Maplewood and South Orange; however, this project remains in a conceptual state.

Multiple bicycle racks are available on the north and south sides of the Maplewood train station, as well as some locations in the Village and commercial corridors including Springfield Avenue, to encourage non-automobile access from surrounding neighborhoods. The Township does not, however, provide dedicated bicycle infrastructure (i.e., protected bike lanes) on local roadways.

Issues and Opportunities

The Township established a plan for a comprehensive bicycle network in the 2010 Maplewood Bikeway Network Plan. This plan's objectives included advancing bikeway corridors identified in the 2004 Master Plan, enhancing connections between major destinations throughout Maplewood, providing connections to South Orange and Millburn, and focusing safe bicycling opportunities on key corridors including striped shoulders and wayfinding. The plan included signed shared roadways and select off-road segments in Memorial Park, Maplecrest Park, the Waterlands, and other locations. Figure 15 highlights existing and proposed bicycle facilities, including segments implemented since the 2010 plan.

The 2012 Municipal Parking Plan also highlighted the 2010 bike plan, underscoring the importance of cross-referencing related planning efforts and not precluding recommended improvements when changing design of parking or roadway facilities.

Feedback from residents and stakeholders points to an ongoing need to expand and connect Maplewood's network of safe bicycling roadways and facilities. While the pedestrian network is comprehensive, bicycling facilities do not fully connect the Township's communities and activity centers, and the Township does not feature any protected bicycle lanes on local streets. Furthermore, concerns about pedestrian and bicyclist safety point to a desire for intersection improvements, traffic enforcement, and other

counter-measures to encourage non-motorized mobility options for residents and visitors of all ages and abilities.

In 2017-2018, the Township received Local Planning Assistance through the NJDOT Office of Bicycle and Pedestrian Programs (OBPP) to assess non-vehicular mobility issues. Four areas of concern were highlighted in this effort: Burnett Avenue, Prospect Street, Ridgewood Road, and Wyoming Avenue. Objectives included addressing high traffic speeds, improving safety and accessibility, reducing crashes, calming traffic, and evaluating lighting. Planning concepts were provided for each corridor, including design guidelines and cost estimates for implementation.

Most recommendations focused on narrowing travel lanes with striping and other treatments to calm traffic, enhance visibility of crosswalks, improve sightlines at intersections, and ensure ADA compliance for sidewalks and curb ramps. The Township has pursued traffic calming approaches as part of repaving and striping efforts, notably striping wide shoulders to provide increased visual buffers for bicyclists from vehicular traffic.

Township residents and stakeholders have expressed heightened concerns about flooding and storm-related events, which relate to the roadway network as drainage and storm overflow is typically tied into the street right-of-way. Opportunities exist to incorporate green infrastructure elements into streetscape projects, including rain gardens, permeable pavements, and other treatments to minimize storm run-off. Green infrastructure can complement a complete streets approach, weaving some of these features into traffic calming and other design components.

An end to courtesy school busing will result in more young students walking, further heightening the need for safe routes to school and safety interventions. Traffic calming, safe crossings, and other safety improvements should be designed with all road users in mind, particularly the most vulnerable including children, seniors, and those with mobility challenges.

Summary

Maplewood's transportation network serves multiple purposes for a variety of users. Its roads serve regional drivers who pass through to other destinations, visit to attend special events with a wide geographic draw, or commute to work. Residents of nearby towns regularly patronize businesses and events in the Village and commercial corridors such as Springfield Avenue. Maplewood also benefits significantly from public transportation connections by bus and rail to Newark, Hoboken, and New York City, along with points west in Morris County and the NJ TRANSIT network.

Meanwhile, Township residents must access local goods and services, schools, the train station, and parks, using all modes of transportation. Given Maplewood's relatively small land area, balancing all of these needs is enormously challenging, and there may not be easy solutions. Nonetheless, the Master Plan will explore strategies that are in the Township's control, such as measures to improve safety and bicycle and pedestrian infrastructure, while identifying paths for advocacy with the State, Essex County, and NJ TRANSIT on cross-jurisdictional issues.



Example of a Shared Road in Maplewood



Pedestrian Environment along Springfield Avenue

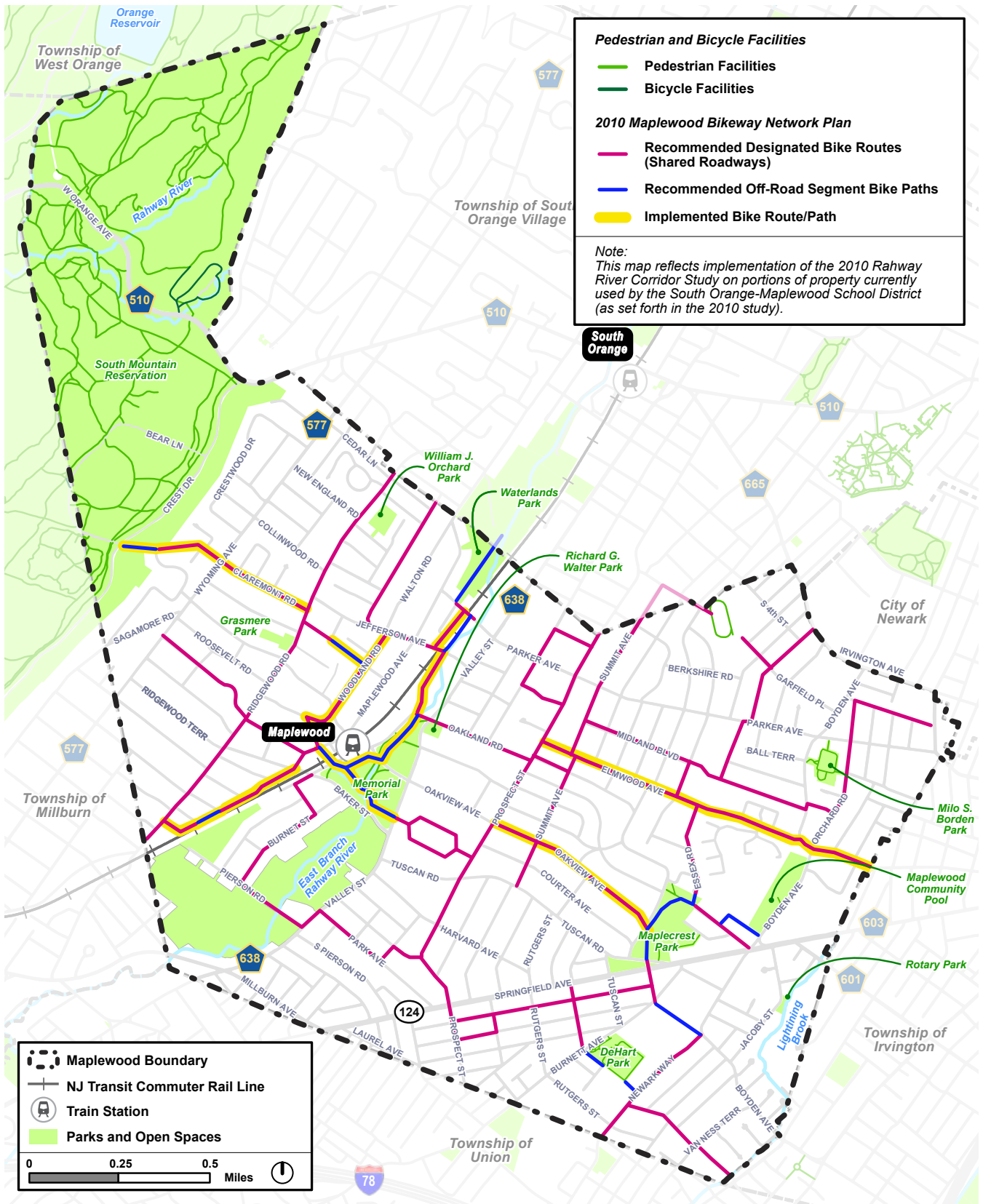


Figure 15: Existing Bicycle and Pedestrian Facilities

Source: Essex County, USGS, NJ Transit, NJDEP, NJDOT, OpenStreetMap (OSM) Road Network (Exported from Urban Footprint), BfJ Planning.

COMMUNITY FACILITIES, RESOURCES, AND PROGRAMMING

Parks and Open Space

Parks and open spaces are an important recreational amenity as well as a key green infrastructure asset that supports quality-of-life, the cohesion of the public realm, sustainability, and the coordination of resiliency efforts in light of climate change. Maplewood has a total of 10 public parks, as shown in Figure 16, and listed in Table 10, which account for approximately 22% of the Township's total land area.

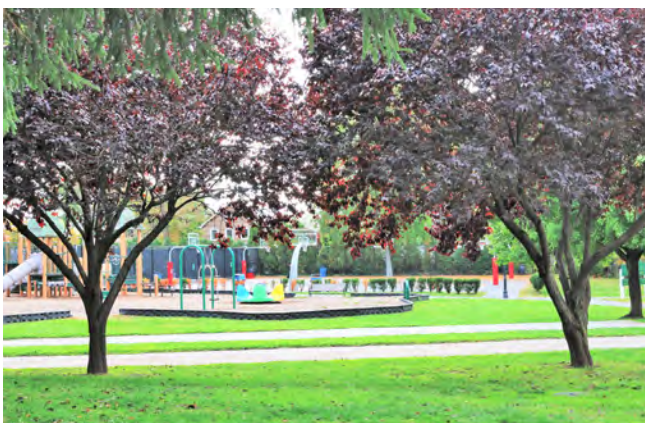
In addition, several open spaces are located in Maplewood that are owned by other municipal entities or privately held, as shown in Table 11.



Orchard Park



Maplewood Community Pool



DeHart Park



Memorial Park

Table 10: Open Space and Recreational Facilities in Maplewood

Source: Maplewood Open Space & Recreation Plan, 2008; Recreation and Open Space Inventory (ROSI), 2022

Name	Size (acres)	Location	Facilities
South Mountain Reservation	2,047 (470 acres in Maplewood)	South Orange Avenue	Hiking trails, picnic areas, carriage roads, South Mountain Arena (two indoor ice rinks), Turtleback Zoo
Memorial Park	23.4	Valley Street	3 lit tennis courts, 2 basketball courts, playground, regulation 90-foot baseball field, 2 60-foot softball fields, 2 smaller fields for tee-ball, seasonal ice skating, amphitheater
Maplecrest Park	15	Oakland Road	3 tennis courts, 3 60-foot baseball/softball fields, playground, volleyball court, shelter house with restrooms, skate park
DeHart Park	7	Burnett Avenue	2 lit combination (90-foot or 60-foot) baseball/softball fields; 60-foot softball field; 2 lit tennis courts; playground; walking/jogging path; shuffleboard courts; community building with meeting rooms, kitchen, and restrooms
Milo S. Borden Park	4	67 Orchard Road	Tennis court, playground, shelter house with restrooms, walking/jogging path
William J. Orchard Park	2	De Hart Road	Playground, shelter house with restrooms, 2 tennis courts, basketball half-court
Grasmere Park	1.8	Ridgewood Road	Historic home, herb and flower garden, walking paths, benches
Richard G. Walter Park	1	Valley Street	2 tennis courts, playground, bocce court, 2 lit paddle tennis courts
Rotary Park	0.8	Jacoby Street	Benches, lawn space
Maplewood Community Pool	8	Boyden Avenue	Olympic-size pool, training pool, wading pool, diving pool, volleyball court

Table 11: Private, South Orange, and Board of Education Recreational Facilities

Source: Maplewood Open Space & Recreation Plan, 2008; Recreation and Open Space Inventory (ROSI), 2022

Name	Size (acres)	Location	Facilities
South Orange Facilities in Maplewood			
Waterlands Park (Chyzowych Field)	8.1	West Parker Avenue	Soccer field
South Orange-Maplewood Board of Education Facilities			
Underhill Field	10	Burr Road	Football field, track
Ritzer Field	5	Valley Street & Hixon Place	Multipurpose field used for physical education, marching band practice, soccer, lacrosse
Privately Owned Facilities			
Maplewood Country Club	82.4	Baker Street	18-hole golf course, 4 clay tennis courts, 2 Har-Tru tennis courts, pool
Maplewood Club	1.6	Ridgewood Road	4 Har-Tru tennis courts, clubhouse
South Mountain YMCA	2	Jefferson Avenue	Indoor recreational facilities

The Township also has two community gardens, located at the municipal building and the Maplewood Pool (First Aid Squad Garden). The community garden located adjacent to Township Hall was created in 2010 and contains 32 raised-bed organic garden plots, which encompass over 1,500 square feet. This garden contains four community plots, tended by all of the members of the garden, which generates produce that is donated to various charity organizations within Maplewood and South Orange. The First Aid Squad Garden was established in 2011 and contains 21 raised-bed organic garden plots, which encompasses over 1,000 square feet.

The Township's 2004 Master Plan incorporates an Open Space and Recreation Plan Element, which was subsequently updated in September 2008 as comprehensive, standalone document. Township residents approved the establishment of an Open Space Trust Fund in 2005 by a large margin. The Open Space Trust Fund Advisory Committee, established in 2006, developed the 2008 Plan to guide the stewardship of the Township's open space resources and funds. The Open Space and Recreation Plan has a detailed description of parks and recreation facilities as well as recommended improvements and opportunities for increasing open space in Maplewood. In addition, the 2008 Plan recommends creating greenways and pedestrian/bicycle routes to open space and other destinations in the Township.

As shown in Figure 16, Maplewood's parks and open space are spread across the Township. However, there are gaps in the open space network between Memorial Park and Maplecrest Park, and available public open space in the area between Memorial Park and South Mountain Reservation is limited. While obtaining large parcels for parks and recreation can be challenging, the areas lacking sufficient open space and recreation areas could host smaller features and amenities such as pocket parks, parklets, and green infrastructure, including rain gardens, bioswales, and additional street trees.

The existing sidewalks and recommended bikeway network provides some level of interconnectivity among Maplewood's parks. Wayfinding signage exists along portions of the bikeways, but some locations do not contain

adequate wayfinding signage or have signage that is only visible from only one travel direction. There are opportunities for wayfinding signage enhancements and expansion.

Recent and Planned Improvements

The Township has pursued several recent park improvements, including basketball and tennis court upgrades at DeHart Park, new ADA-compliant restrooms in the shelter house at W. M. Orchard Park, pathway renovations and skate park improvements at Maplecrest Park, and repair/reconstruction of the East Branch Rahway River stone retaining wall and tennis court improvements at Memorial Park.

Representative planned improvements to Township-owned parks include the DeHart Recreational Center parking lot improvements, Duck Pond pedestrian bridge improvements at Memorial Park, and the installation of seven new ADA ramps and refreshed striping of existing crosswalks at intersections immediately adjacent to public parks to increase accessibility and improve public safety.

An important aspect in parks planning is maintenance and management. As is the case in many communities, ongoing challenges for the Township include discouraging vandalism, enhancing park security, and efficient communication involving park-related issues.

The Maplewood Division of Recreation provides adult and youth programming for sports and activities such as art enrichment, the community pool, senior activities and classes, tennis, ultimate Frisbee, yoga, softball, soccer, wrestling, and special needs programming. In addition, the Township hosts races and special events such as the Maplewood in Motion 5k Race.

Community Facilities

Community facilities in Maplewood play an important role in providing essential services and civic spaces that can enable healthier and well-connected neighborhoods. This section highlights key public facilities and nonprofit institutions in the Township, as shown in Figure 17. Community facility planning should actively address any unmet population needs while also planning for anticipated social, environmental, and technological changes.



Figure 16: Publicly Owned Parks and Open Spaces

Source: Essex County, USGS, NJ Transit, NJDEP, NJDOT, OpenStreetMap (OSM) Road Network (Exported from Urban Footprint), Township of Maplewood, BfJ Planning.

Township Facilities

Maplewood maintains several public facilities to serve its municipal functions as well as provide additional cultural and meeting spaces. In addition, to the municipal building on Valley Road, the Police Department on Springfield Avenue, two fire stations serving the recently merged Maplewood and South Orange departments), and the DPW facility off Newark Way, the Township hosts the following facilities:

The Woodland: This Georgian Revival-style historic mansion, formerly the longtime home of the Maplewood Women's Club, has an adjoining auditorium that hosts cultural, educational, and recreational activities.

Burgdorff Center for the Performing Arts: The multi-purpose facility, originally a church, contains a 100-seat theatre and a 1,600-square-foot community room. Both spaces are available for rental to residents and non-residents of Maplewood.

DeHart Community Center: This building, located within DeHart Park, is used for musical performances and recitals, clubs, exercise classes, senior citizens programs, and other activities.

Maplewood Senior Center: This facility, next to DeHart Park, provides a range of programming and activities for seniors.

Public libraries include the Maplewood Memorial Library main branch on Baker Street, the Adult Services branch next to the Maplewood Community Pool, and the Hilton Branch (Children's & Teen Services), on Springfield Avenue. As of 2022, the main branch was undergoing a significant renovation, funded by an \$8.3 million state grant as well as the Township and private donations. The new library will be two stories and more flood-resistant, and will incorporate features such as community meeting spaces, and a business center, and will be fully accessible with an elevator.

Other ongoing and/or planned projects include an Office of Emergency Management (OEM) generator installation, Senior Center ADA improvements, and several enhancements to the municipal building property such as EV charger installation, front walkway improvement, gas line, boiler upgrade, roof replacement for the greenhouses, and the installation of a new roof above the conference room.



The Woodland



Burgdorff Center for the Performing Arts



DeHart Community Center



Maplewood Senior Center

Education

Maplewood shares a school district with South Orange, known as the South Orange-Maplewood School District, with six of the public schools located in Maplewood (see Figure 18 and Table 12). Prior to the COVID-19 pandemic, the district was experiencing a trend in rising long-term enrollment, increasing from 6,100 students in 2006 to 7,158 in 2019. However, the pandemic and associated health-related restrictions have contributed to declining enrollment at public schools nationwide. The district’s enrollment fell to 6,786 in 2020, 6,561 in 2021, and 6,540 in 2022. It is not clear whether enrollment will return to pre-COVID levels.

There is one private school that serves Maplewood, Our Lady of Sorrows, located in South Orange and enrolling 130-180 students in grades K-8. Another private school in South Orange, Marylawn of the Oranges, an all-girl, Catholic high school, closed in 2013.

Local students also attend private schools in the broader area including: Montclair-Kimberley Academy in Montclair, Far Brook School in Short Hills, the Pingry School in Short Hills and Basking Ridge, Newark Academy in Livingston, and St. Rose of Lima Academy in Short Hills. Due to lack of available recent nonpublic school enrollment data, it is not clear to what extent enrollment at these schools has increased since the start of the pandemic in April 2020. However, given the decline in public school enrollment, it is assumed that some Maplewood families opted to send their children to these or other private alternatives in the region.

Table 12: Public Schools in Maplewood

Source: South Orange-Maplewood School District

Name	Location	Grades Served
Clinton Elementary School	27 Berkshire Rd.	K-5
Columbia High School	17 Parker Ave.	9-12
Delia Bolden Elementary School (formerly Jefferson Elementary School)	518 Ridgewood Rd.	3-5
Maplewood Middle School	7 Burnet St.	6-8
Seth Boyden Elementary School	274 Boyden Ave.	K-5
Tuscan Elementary School	25 Harvard Ave.	K-5



Delia Bolden Elementary School



Seth Boyden Elementary School Source: SOMA School District



Maplewood Middle School



Columbia High School

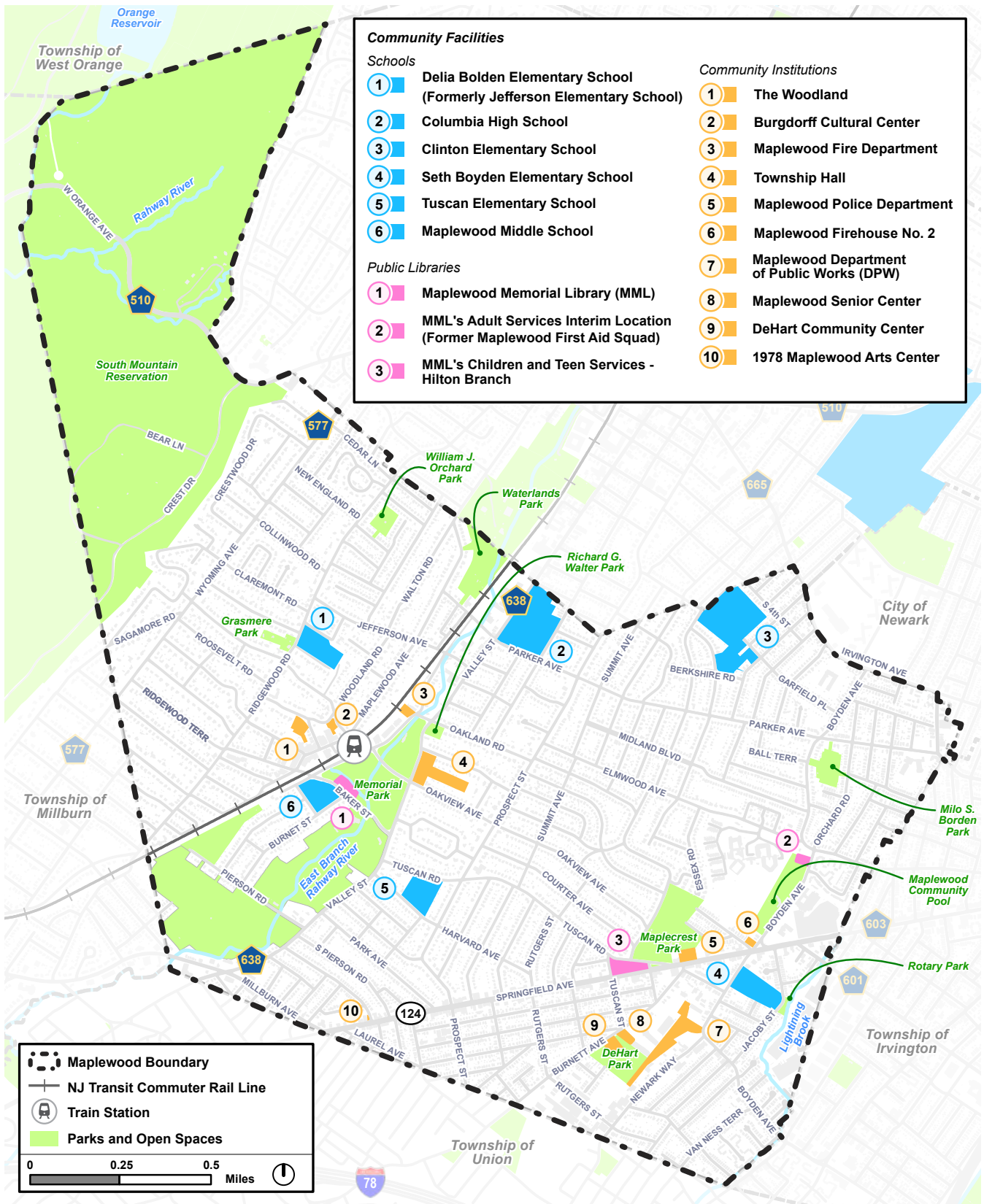


Figure 17: Community Facilities

Source: Essex County, USGS, NJ Transit, NJDEP, NJDOT, OpenStreetMap (OSM) Road Network (Exported from Urban Footprint), NJOGIS, NJDOE, Google Maps, Township of Maplewood, BFJ Planning.

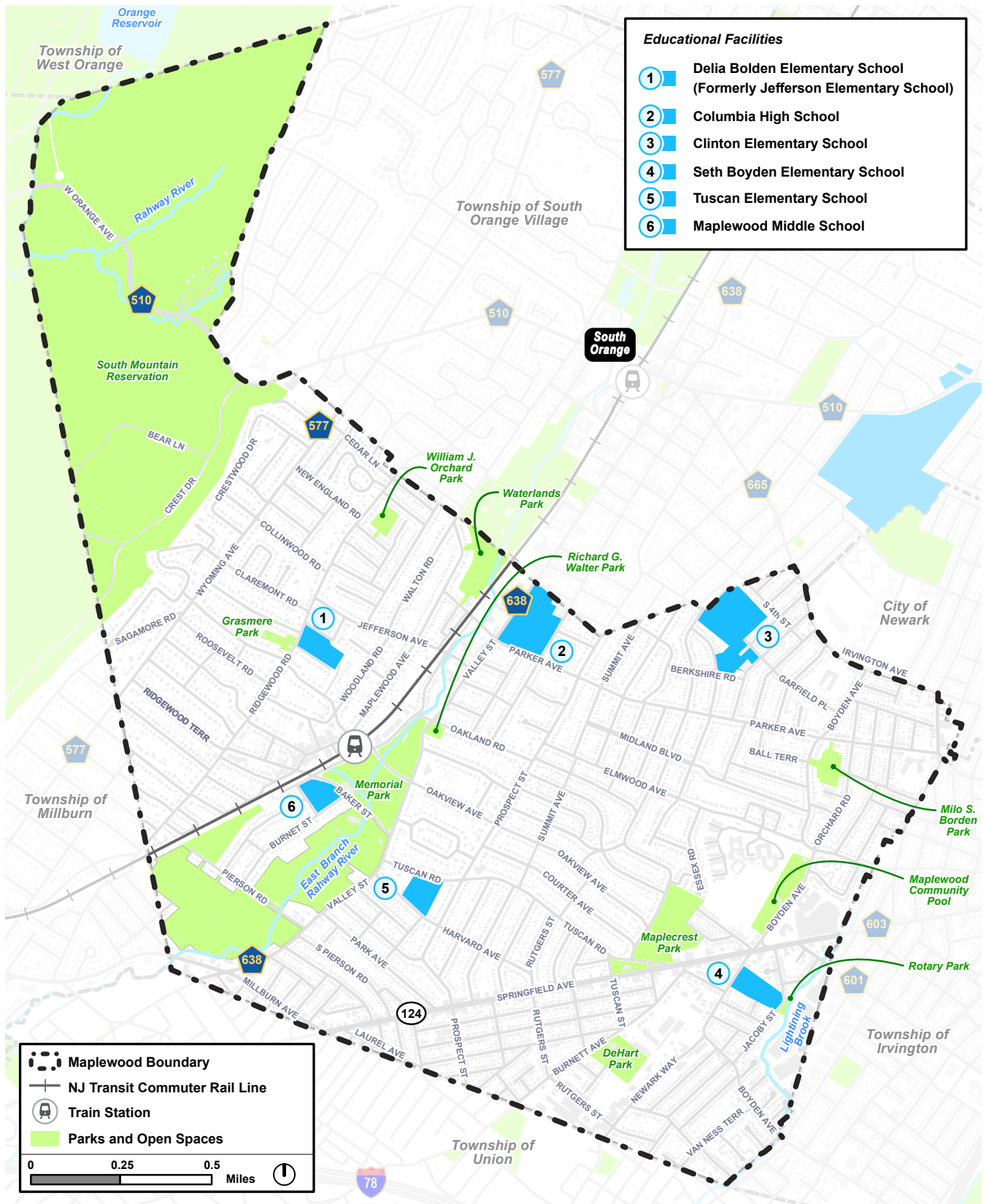


Figure 18: Educational Facilities

Source: Essex County, USGS, NJ Transit, NJDEP, NJDOT, OpenStreetMap (OSM) Road Network (Exported from Urban Footprint), NJOGIS, NJDOE, BFI Planning.



Durand-Hedden House

Healthcare

In the wake of the pandemic, community healthcare facilities are of heightened importance. While Maplewood does not host a regional hospital, it does contain several medical offices, especially along Millburn Avenue. The Township is also in close proximity to regional hospitals such as Overlook Hospital in Summit and St. Barnabas Hospital in Livingston.

Public health is an increasingly important aspect of community planning, and while specific treatments and health-related protocols are beyond the scope of this Master Plan, public outreach and programming are relevant topics for discussion. An identified area in need of improvement involves outreach to vulnerable populations and populations that are sometimes difficult to reach via the main communications channels on the internet, social media, etc. Targeted engagement of these segments of the population are desired and warranted.

The Healthy Community Planning Report, prepared by the New Jersey Department of Environmental Protection and New Jersey Department of Health, contains summary information on a variety of public health topics including air quality, water quality, radon, brownfields, flooding, excessive heat, and open space.

Additional discussion and recommendations regarding public health and related public outreach, including results of Maplewood's Local Health Assessment conducted in the fall of 2022 will be included in the Master Plan.

Other Community Resources

Discussions with stakeholders identified the need to continue to support key community facilities that offer essential goods and services, promote arts and culture, and support equity



Maplewood Municipal Building

and inclusivity. Maplewood is served by numerous community and nonprofit organizations, such as the Maplewood Garden Club; Maplewood Artist Collective; South Mountain YMCA; Memorial Park Conservancy; Maplewood Village Alliance; Springfield Avenue Partnership; the South Orange/Maplewood Community Coalition on Race; and the Durand-Hedden House & Garden Association, which manages the Durand-Hedden House historic museum and surrounding Grasmere Park.

Historic Resources

Maplewood has a historic charm that balances the preservation of historic resources with innovative sustainable design and green building. Building on its long history of preservation, the Township's Historic Preservation Commission was established in 2001. Maplewood is one of only a few dozen municipalities in the state that has been accepted into the Certified Local Government (CLG) program, which is administered by the National Park Service through the New Jersey Department of Environmental Protection's State Historic Preservation Office (SHPO). Eligibility for CLG status requires that the Historic Preservation Commission membership meets a specified level of expertise and enables the Commission to serve as a representative of SHPO on local issues. Achieving CLG status is indicative of both the competence of the members of Maplewood's Historic Preservation Commission and the quality of the town's Historic Preservation Ordinance.

The 2004 Master Plan contained a Historic Preservation Element that was followed by a more comprehensive, standalone Historic Preservation Element in 2008. Designated historic resources are discussed below and shown on Figure 19.

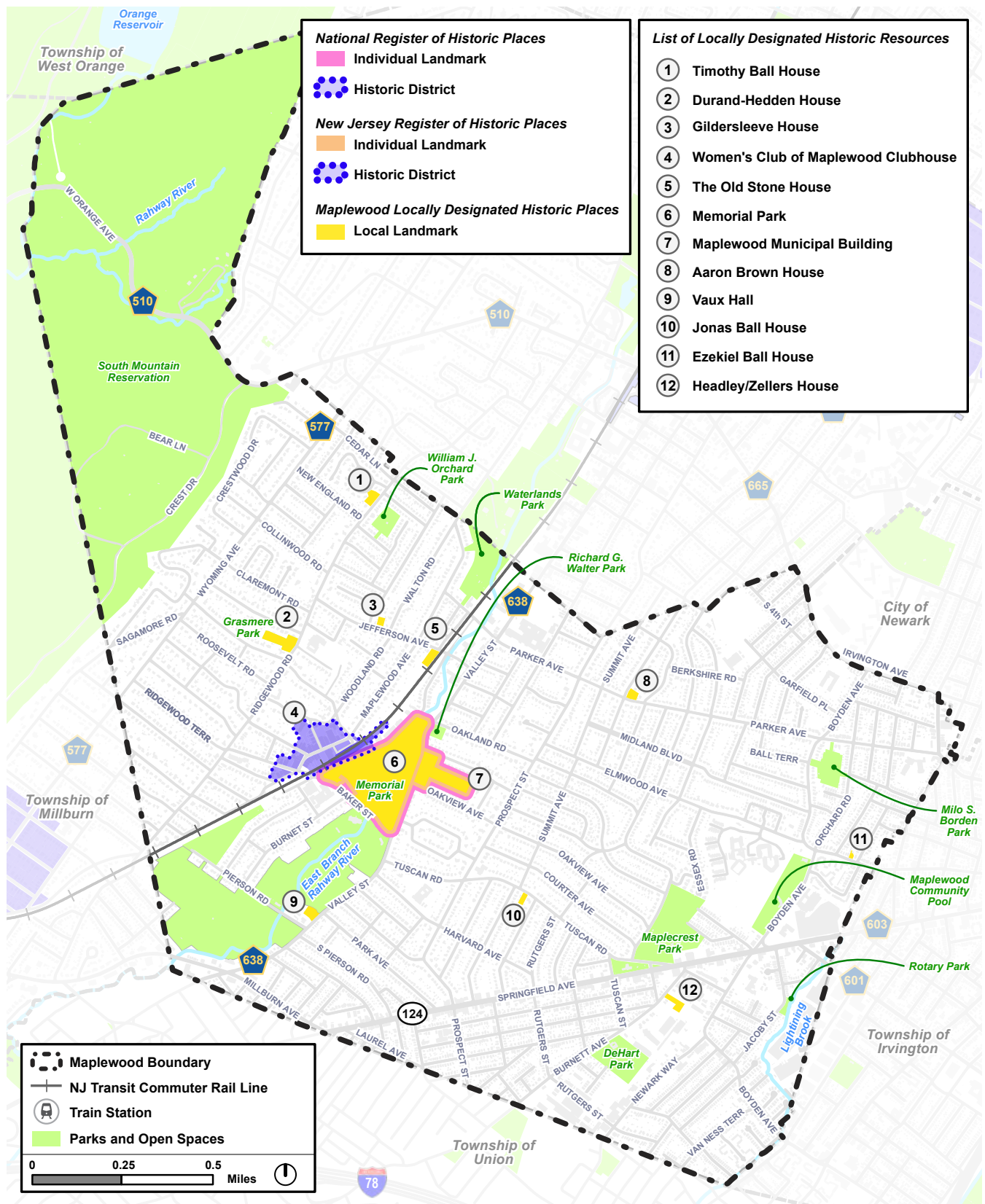


Figure 19: Locally Designated and State/National Historic Districts and Sites

Source: Essex County, USGS, NJ Transit, NJDEP, NJDOT, OpenStreetMap (OSM) Road Network (Exported from Urban Footprint), BFJ Planning.

Locally Designated Resources

The Historic Preservation Commission has completed detailed surveys of historic resources located throughout Maplewood and amassed a substantial body of information, including identifying and surveying 46 pre-1860 era homes. In addition to buildings and sites, the Commission surveyed numerous historic features such as street-edge stone gutters, bridges, gates, and other features that have significant historic value. These features are summarized within the 2008 Historic Preservation Plan.

State and National Registers of Historic Places

Beyond local historic designations, Maplewood has historic assets deemed significant by the State and National Registers. While some of these listings are also locally designated, others are not. Table 13 provides a complete listing of all buildings and sites in the State and National Registers.

Historic Preservation Initiatives

Since 2001, the Historic Preservation Commission has sought to identify and place historic properties on the Maplewood Historic Resources Inventory list. These efforts included extensive architectural surveys during the 2003-2005 time period, which laid the foundation for the 2008 Historic Preservation Plan, and the large body of information that continues today such as the surveys of the College Hill neighborhood in 2014 and the Golf Island neighborhood in 2017, and pursuit of the Maplewood Village Historic District designation in 2018-2020. Detailed information on local historic resources, including those that do not appear on the State or National Registers, is included in the 2008 Plan.

Table 13: Locally Designated and State/National Historic Districts and Landmarks

Source: NJDEP SHPO NJ and National Registers of Historic Places, last updated July 15, 2022

Note: SR= State Register; NR = National Register; NHL = National Historic Landmark

Historic Districts		
Name	Location	Designation
Maplewood Village Historic District	Maplewood Avenue; Durand Road; Highland, Inwood, and Lenox Places; Baker Street	NR: 4/25/2022; SR: 3/10/2022; COE: 1/9/2017
Memorial Park Historic District	Bounded by Valley and Baker Streets and Dunnell and Oakland Roads	COE: 3/11/2011
Old Main Delaware, Lackawanna and Western Railroad Historic District	Morris & Essex Railroad right-of-way (NJ Transit Morristown Line)	SHPO Opinion: 6/7/2004
South Mountain Reservation Historic District	Old Short Hills Road; Northfield, Millburn, Wyoming, and Gregory Avenues	SHPO Opinion: 11/18/2008
State and National Registers of Historic Places		
Name	Location	Designation
Durand-Hedden House	523 Ridgewood Road	COE: 8/27/2010
Maplewood Station	Dunnell Road, Milepost 15.4, NJ Transit Morristown Line	SHPO Opinion: 3/25/1998
Maplewood Memorial Park	Bounded by Valley and Baker Streets and Dunnell and Oakland Roads	NR: 8/4/2015; SR: 2/19/2015
Maplewood Municipal Building	574 Valley Street	NR: 10/1/2014; SR: 5/1/2014; COE: 3/11/2011
Pierson's Mill and "Vaux Hall"(aka The Pierson House)	693-697 Valley Street	COE: 3/17/2000
White Oak Ridge Pumping Station	107 Wyoming Avenue	SHPO Opinion: 8/6/2018

SUSTAINABILITY, INFRASTRUCTURE, AND RESILIENCY

Sustainability

Maplewood is deeply committed to sustainability and has infused sustainable principles, practices, and initiatives throughout its policy, ordinances, and programs. In fact, Maplewood provided founding leadership and was among the 34 municipalities that obtained the inaugural Sustainable Jersey certification in 2009, which underscores the Township's efforts on sustainability with an impact beyond its boundaries. Climate change is a major sustainability issue that should inform policy decisions both in leveraging the Township's ability to reduce its global warming impact and managing the impact of increased rainfall intensity, rising temperatures, ecosystem disruptions, and other threats.

Overview of Existing Policy, Regulations and Conditions

The 2004 Master Plan touches on many of the facets of sustainability, and includes a goal to further explore and investigate ways in which the Township could enhance the extent to which future development could incorporate sustainability in both building and site design. Building on the 2004 Master Plan, the 2011 Master Plan Re-examination Report sets forth the following set of goals and objectives that tie in with key aspects of sustainability:

- Establish a long-range plan for developing a bikeway network in Maplewood.
 - Implement administrative and programmatic efforts in support of bicycling in Maplewood.
 - Promote the incorporation of sustainability in both building and site design of future development and redevelopment, and do so in a manner that maintains viable economic development.
 - Protect and preserve Maplewood's natural physical environment, open spaces and recreational facilities.
 - Support policies, programs and plans which promote wellness by encouraging walking, bicycling, outdoor recreation, and all forms of physical exercise.
- Encourage the development and implementation of transportation modes which are alternatives to the use of private passenger motor vehicles, including consideration of extending the Township's jitney service beyond serving the community's railway commuters.
- The 2011 Re-examination Report also contains an entire chapter focused on sustainability, which summarizes Maplewood's key sustainability policy provisions and the various initiatives that have been implemented. The following plans and studies have been completed by the Township and are relevant to sustainability and/or environmental matters:
- Natural Resources Inventory (2006)
 - Maplewood Climate Initiative Action Plan (2007)
 - Open Space and Recreation Plan Element (2008)
 - Historic Preservation Plan Element (2008)
 - Drainage/Flood Mitigation Improvements Study for four study areas (2009)
 - Community Forestry Master Plan (2009)
 - Rahway River Corridor Study (2010)
 - Local Bicycle and Pedestrian Planning Assistance Report (2018)
- These efforts are supported by a number of ordinances that have been enacted to promote sustainability, including:
- 2332-06: Establishes the Open Space Trust Fund Advisory Committee.
 - 2696-12: Establishes Maplewood Township Green Team.
 - 2801-15 and 2903-18: Establishes the Sustainability Committee.
 - 2893-18: Solar energy systems ordinance.
 - 2971-19: Provides a regulatory framework for the construction of plug-in electric vehicle charging stations.
 - 2972-19: Codifies electric vehicle charging stations as a permitted accessory use in all zones subject to the standards established in the Township's Plug-In Electric Vehicle Ordinance.
 - 3033-21: Revises the procedures for securing a tree removal permit and adjusts fines for violations
 - 3057-22: Prohibits the use of gas-powered leaf blowers.

The policy and regulatory documents listed collectively provide a robust platform for implementing sustainable programs and initiatives, including promoting efforts in the private sector through development that incorporates sustainable/green building and site design features.

Carbon Footprint

Maplewood has estimated both its community and municipal carbon footprints. This calculation evaluates each jurisdiction's carbon footprint in terms of metric tons of carbon dioxide equivalent (CO₂e) emissions per year. The Township estimated that the carbon footprint from the community-wide electricity, natural gas, and fuel oil use was about 125,000 metric tons of CO₂e in 2021. A more comprehensive estimate of Maplewood's greenhouse gas impact from the University of California, Berkeley Cool Climate Network model, adding in the greenhouse gas contributions of the community from vehicles, food consumed, and other community purchases, came to roughly 475,000 metric tons of CO₂e. This estimate is from 2013, the most recent available, but is indicative of the full magnitude of Maplewood's current climate impact.

Of this total about 3,500 metric tons of CO₂e emissions were from municipal buildings, vehicles, and other municipal assets and activities in 2018. Even after a decade and a half of efforts, reducing Maplewood's greenhouse gas footprint remains a stubborn challenge. Despite its relatively tiny share of the community-wide emissions, the Township plays an outsized role in inspiring and facilitating broader responses. For instance, with Township encouragement, there were 376 rooftop solar installations with 2.36 MW capacity registered with the NJ Clean Energy Program as of April 2023.

Impervious Coverage and Green Infrastructure

Maplewood is largely developed, with the only major exception being the northwest sector fully comprised of Essex County's South Mountain Reservation. A large majority of the Township is zoned residential, with impervious coverage ranging from 40% to 80%, with the highest percentages in the eastern areas. There are localized areas of near 100% impervious coverage in the commercial and industrial zones, including the areas around Columbia High School, Maplewood Middle School, and Underhill Field. With

such high rates of impervious coverage, multiple areas of Maplewood are prone to flooding, insufficient water quality of stormwater runoff, and insufficient aquifer recharge, especially with more frequent intense storms and related impacts anticipated from future climate change.

Green infrastructure helps reduce the area covered by impermeable surfaces, which reduces the amount of stormwater entering storm sewer systems, reduces pollution in adjacent waterbodies, facilitates re-use of stormwater via rain barrels and other methods, and helps mitigate both local and downstream flooding. Common types of green infrastructure include rain gardens, dry wells, bioswales, urban tree canopy, and natural green spaces within parks.

Green infrastructure can play a significant role in mitigating the impacts of stormwater and flooding. In 2018, the Township prepared a Stormwater Pollution Prevention Plan ("SPPP"),

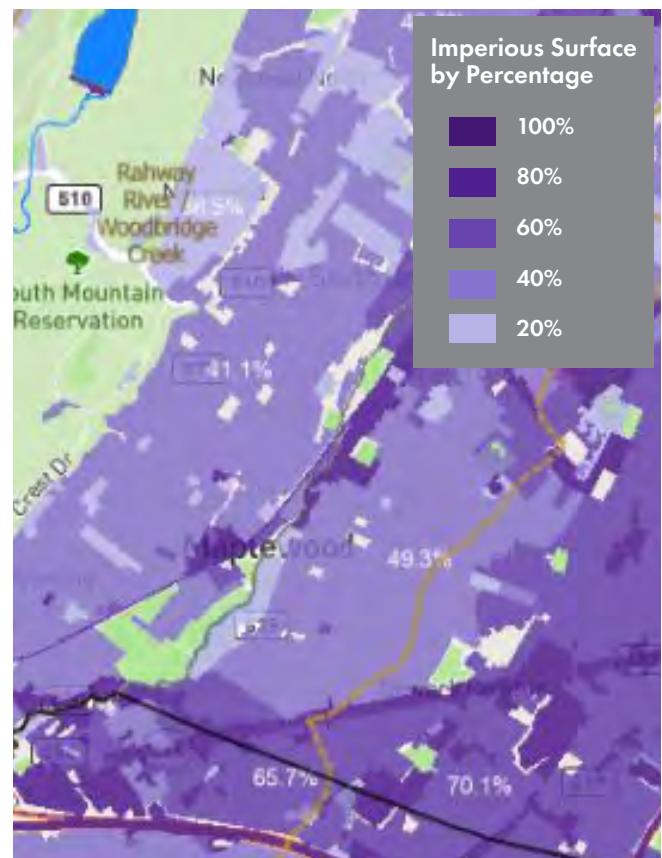


Figure 20: Impervious Coverage (2015)

Source: Rowan University School of Earth and Environment NJ Map, NJDEP Land Use Land Cover (2015), via the Maplewood Environmental Advisory Committee.

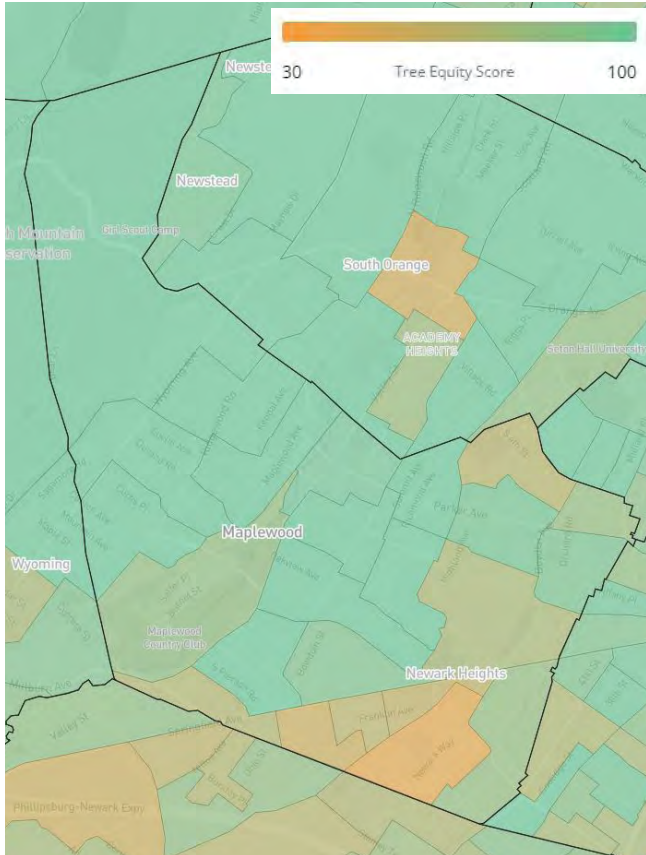


Figure 21: Tree Equity Score

Source: Tree Equity Score, Mapbox, OpenStreetMap, Earth Define, US Tree Map (2020), US Census Bureau American Community Survey 2014-2018, via the Maplewood Environmental Advisory Committee.

which sets its stormwater management and water quality policy, ordinance, program requirements, and initiatives. Consistent with its commitment to sustainability, Maplewood maintains a comprehensive stormwater management program that supports improved water quality, efficient water usage, green building, green infrastructure, and other aspects of sustainability as they pertain to stormwater management.

Notably, impervious surfaces generally correspond with reduced tree canopy and are mutually reinforcing to contribute to localized areas of elevated temperatures, or “heat islands. With extreme heat conditions increasing due to global warming, trees have the added benefit of providing residents with shade. Further, the “greening” of certain areas such as streetscapes and parking lots provides an aesthetic benefit that can be appealing to residents and visitors to the Township in addition to the benefits noted above.

A representative example of green infrastructure in Maplewood is the Hilton Rain Garden, installed in 2011-2012. The project was funded by a \$10,000 grant from the

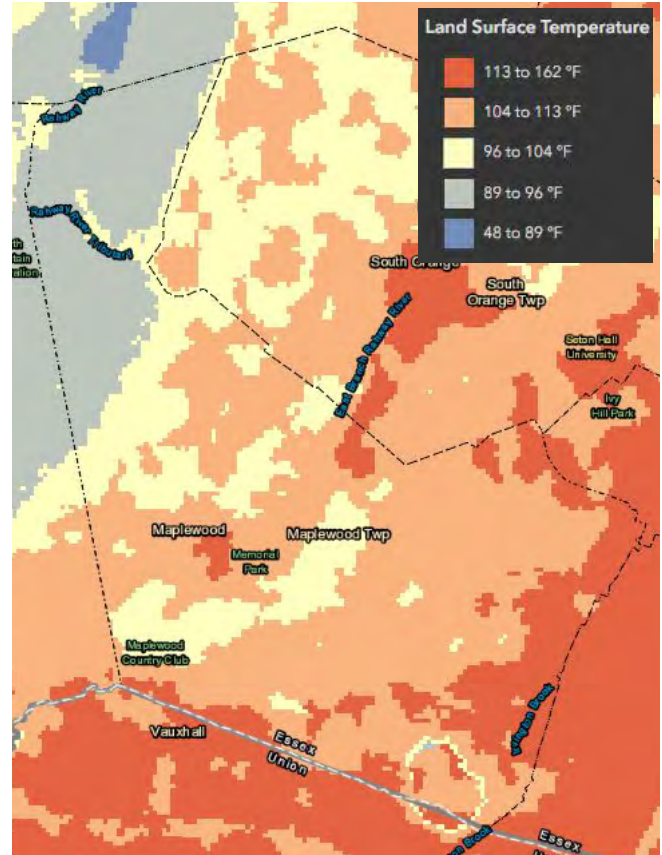


Figure 22: Land Surface Temperature (Summer 2022)

Source: Earthstar Geographics, ESRI, HERE, Garmin, Landsat Missions, NASA Earth Observatory, via the Maplewood Environmental Advisory Committee.

New Jersey American Water Company, and was completed through collaboration between the Maplewood Garden Club and the Township’s Engineering and Public Works Departments. The 1,200-square-foot rain garden adjacent to the Hilton Branch Library features native species plantings and is able to capture approximately 200,000 gallons of stormwater runoff from the library’s roof and parking lot, which is then naturally infiltrated locally, reducing flow into the Elizabeth River. The Hilton Rain Garden was the largest rain garden in New Jersey at time of construction and is still among the largest in the state.

The non-structural stormwater management strategies used in the green infrastructure examples noted above promote the Goals and Objectives from the 2004 Master Plan and the 2011 Re-examination Report. This important class of infrastructure also promotes and is in accordance with the Township’s Stormwater Management Ordinance, the most recent version of which was adopted in July 2021.

Green Buildings and Design

Maplewood has also implemented several ordinances and initiatives related to green buildings and design. Notable examples include the U.S. Green Building Council's Leadership in Energy and Environmental Design ("LEED") Certified Maplewood Police and Courts building, the Maplewood Memorial Library (currently being renovated to become fossil fuel-free and LEED-certified with future-oriented energy systems and other sustainability features), and the Township's substantial participation and leadership in the Sustainable Jersey Program. The Township also hosts several private sector green buildings that have attained certification under the LEED program.

Recent Sustainability Projects and Initiatives

One of the key initiatives in the Township of Maplewood is its participation in the Sustainable Jersey Program, overseen by its Sustainable Maplewood committee. After obtaining Sustainable Jersey certification in 2009, the Township continued in the program and achieved Silver Certification in 2019, which it has subsequently maintained. Representative projects and initiatives that Maplewood has completed and/or continues to implement under this program include:

- Installed public electric vehicle charging stations
- Adopted ordinances restricting leaf blower usage and vehicle idling
- Energy Aggregation program to reduce costs and increase renewable energy use for residents
- Conducted energy audits of all main buildings and upgraded lighting for energy efficiency in the Municipal Building, the Public Works building and Memorial Library
- Replaced traffic signals with LEDs, saving two-thirds of the electricity used
- Upgraded street lighting to reduce their overall electricity use by 40%
- Established weekly curbside recycling pickup and created a shared electronics recycling program with South Orange
- Installed an organic turf field at DeHart Park
- Prohibited the use of chemical pesticides in parks and around municipal buildings and implemented the use of green cleaning products in facilities
- Use of bio-diesel in jitney buses and purchase of hybrid vehicles when replacing Township fleet vehicles



Maplewood Police and Courts Building



Public Electric Charging Station at The Woodland

The energy aggregation program noted above is overseen by the Sustainable Essex Alliance and known as the SEA Energy Aggregation Program. The program is led by Maplewood with other members being Glen Ridge, Verona, Montclair, South Orange, Livingston, and Glen Rock. The program purchases electricity for residents with a significantly higher percentage of the energy attributed to renewable energy sources and the electricity is provided at a lower cost than the standard energy rates. SEA Energy Solutions is a component of this program that is guiding residents in the participating towns in ways to increase the energy efficiency of their homes and take advantage of NJ Clean Energy incentive programs.

In addition, the Township has established an Environmental Advisory Committee (EAC), which advises the Township administration on environmental issues including climate change, recycling, clean air, clean water, and protection against health-threatening contaminants.

The Township runs several other green initiatives, including an annual Green Day; the Maplewood Climate Initiative; and a Green Business Program, which helps local businesses assess and optimize their energy, water, and materials usage. Maplewood has a comprehensive environmental action website (<http://maplewoodisgreen.org>) that helps organize and promote these various initiatives.

Resiliency

Maplewood seeks to maintain and enhance community resilience in terms of the community's ability to withstand, adapt to and quickly recovery from natural disasters and other emergency events. Resilient communities are able to better prepare for emergency events, use preparedness and mitigation strategies to reduce impacts from emergency events, roll-out post-emergency services more quickly, and provide more meaningful and significant support for residents and businesses in their recovery from the emergency events. Collectively, these benefits enable communities to bounce back from emergency events more quickly and fully.

The Township has taken actions to promote resiliency such as the formation of an Emergency Management Office, implementation of the Stormwater Management Ordinance, and installation of green infrastructure projects. In addition, the 2004 Master Plan and 2011 Re-examination Report have goals and objectives pertaining to environmental conservation and sustainability that support key aspects of resiliency such as the 2011 MPRR Objective to "Protect and preserve Maplewood's natural physical environment, open spaces and recreational facilities." Further, the 2010 Rahway River Corridor Study discusses the characteristics of the Rahway River segment that traverses the Township, including discussion of floodplains, wetlands and other environmental features. However, as this report predated the storms and related flooding events that affected Maplewood during the 2011-2021 time period, it does not delve in detailed resiliency planning and design.

There are opportunities for resiliency measures along the Rahway River corridor, including the use and/or restoration of natural floodplains and riparian zones. For example, adjacent underutilized properties such as Chyzowych Field may be able to be used to both provide valuable public open space and to help mitigate potential flooding. In addition, there are many residential properties throughout Maplewood that have storm runoff flowing directly into streets. The Township should employ an education campaign to homeowners to encourage them to reconfigure gutters to flow into yards. This should be paired with an enforcement effort to eliminate illegal flows (i.e. laundry drains and sump pumps that flow directly into the street). Also, as residential

properties are upgraded, the Township should ensure that stormwater systems are brought up to current standards.

Essex County has also generated hazard mitigation and resiliency strategies that pertain to Maplewood. The County analyzed threats and opportunities for enhanced resiliency in the Township during the preparation of the 2020 All Hazards Mitigation Plan (AHMP). Representative hazard mitigation actions that have occurred in Maplewood since its adoption include:

- Installation of emergency generators throughout most municipal buildings and installation of an emergency generator transfer switch at Memorial Library.
- Stabilization of retaining walls along Rahway River along Memorial Park.
- Engineering Department sends out information to homeowners in low-lying areas for installing backflow preventers to prevent sanitary sewer overflows.
- Creation of the Hilton Branch Library rain garden.
- Increased drainage capacity of drainage culverts to mitigate flooding.
- Implemented tree maintenance program and coordination with utilities.

Several additional measures are planned, such as the stream bank stabilization and floodproofing of structures along the Rahway River and Lightning Brook as well as the installation of a back-up generator at the OEM building.

Utility Infrastructure

Drinking Water

Clean drinking water, or potable water, is an essential resource for every community. Drinking water in Maplewood is provided by New Jersey American Water, which processes the water according to stringent water quality requirements.

The age of the water system infrastructure in Maplewood varies, with some portions and components of the system being quite old and in need of upgrading. Drinking water lines in close proximity to the areas subject to flooding could be impacted by changes in the subsurface soil characteristics

due to saturation by floodwaters and subsequent shifting of soil that could strain system components. Due to these and other related factors, the Township engages in ongoing maintenance/upgrades to older and/or vulnerable sections of the water infrastructure, such as replacement of lead pipes.

Wastewater

Wastewater, or sewerage, systems in Maplewood are owned and operated by the Joint Meeting of Essex and Union Counties as well as the Township with respect to certain segments of the infrastructure. Adequate wastewater systems capacity is essential to support existing development and to support additional development and redevelopment. Much of the sewerage system infrastructure in Maplewood is old, with certain sections in need of repair or replacement.

Similar to water lines, sewer lines in close proximity to the areas subject to local flooding could be impacted by changes in the subsurface soil characteristics due to saturation by floodwaters and subsequent shifting of soil that could strain the lines, laterals and other system components. In addition, any resulting leakage from sanitary sewer systems could create environmental hazards related to raw effluent. As a result of the factors outlined above, there is a pressing need for upgrades to older and/or vulnerable sections of the wastewater infrastructure in Maplewood.

Other Utilities

Maplewood's electricity and gas utility is Public Service Electric and Gas Company ("PSE&G"). Telephone landlines, cell phone transmitters, cable and other customary services are also available in the Township. Resiliency considerations for this infrastructure includes that electric service lines, and other service lines such as telephone and cable lines, are strung from poles above ground and are therefore unsightly and vulnerable to tree fall during storms and require extensive pruning of street trees. In addition, in some cases flooding of electrical substations and essential equipment can cause local or regional power systems failure. Electric vehicle charging infrastructure is increasingly being implemented in the Township, including at the municipal building and the Woodland, as well as in private homes. The electric grid and associated infrastructure will need to be monitored to identify the need for upgrades and alterations that will be

required in order to support the planned increasing reliance on electricity to power vehicles, buildings, and equipment.

Solid waste hauling and disposal for residential uses in the Township is handled by third-party commercial waste haulers Waste Management and Waste Industries. Commercial and multifamily users generally also contract with a commercial waste hauler, such as the two mentioned above, to cart away refuse. Curbside recycling services are provided for residents on alternating weeks for fibers (cardboard and paper) and commingled plastic, glass, and metal containers through pickup and processing contractors. Residents and local businesses can drop off additional materials including electronics, used cooking and motor oil, lead acid batteries, used clothing, air conditioners, washing machines, and dishwashers at the Township Recycling Center in the Public Works Yard on Boyden Avenue. Public Works also hosts semi-annual bulk drop off and paper shredding events and collects leaves in the fall and yard waste in the spring for composting at a remote facility.

The Township maintains access to the cellular network via the local and regional cell tower and cellular array network. Wi-Fi access within Maplewood is available at both the Main Library and the Hilton Branch buildings and outside of the buildings. Both library buildings also have computers that the community is permitted to use for a one-hour session per day. The library also lends Wi-Fi hotspots to resident cardholders for a three-month timeframe. In addition, a Wi-Fi pilot program was rolled out in May 2020 where the Township collaborated with the South Orange-Maplewood School District and Data Network Solutions to install an access point antenna on the roof of Seth Boyden Elementary School to provide free broadband internet to the neighboring community.

During emergency events that require that education and certain employment activities be conducted remotely, low-income households may not have connectivity to the internet from devices other than their phones, which heightens the importance of publicly accessible Wi-Fi. The benefits of publicly accessible Wi-Fi also enhance access for contacting emergency services and enhance the dissemination of emergency services updates to residents and visitors during emergency situations.