Chapter 4

Future Needs

A NEW FRAMEWORK

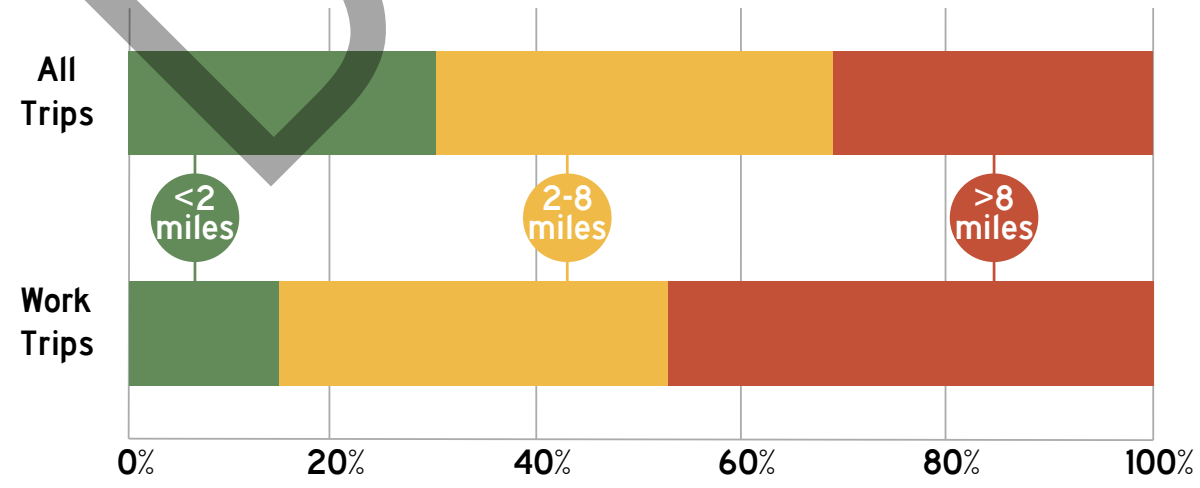
Our transportation network should provide mobility choices that reflect the purpose of a trip, its length, and geographic context.

Transportation planning has traditionally focused almost exclusively on the work commute, which is typically the longest trip, both in terms of distance and time, and the most time-sensitive trip that a person makes in a day. While the commute is a core function of our transportation network, it is only one of many trips made each day. Data from the National Household Travel Survey (NHTS) and Replica, a data platform for the built environment, show that work trips only account for between 15 and 25 percent of all trips that occur within the Syracuse MPA. Shopping, dining, medical appointments, and visiting friends and family are all important trips we make frequently, if not daily, and collectively account for far more trips than our work commutes, but have often been overlooked in traffic engineering and transportation planning.

When we consider all trip types – not just commuting – we see that most of the trips made in the region are trips with both an origin and destination in the same municipality. Over 350,000 daily trips both begin and end in the City of Syracuse. The next most common endpoint for trips that start in the City is the Town of DeWitt, with just over 42,000 daily trips. High numbers of "internal" trips are also seen in suburban communities such as the Town of Clay, with 93,000 daily trips that both begin and end in the town and only 24,000 trips from the Town of Clay to the City of Syracuse.

Work trips tend to be longer than other trips. Approximately 30 percent of all trips within our region are under 2 miles, but only 15 percent of work trips are this short. Over 45 percent of work trips in our region are over 8 miles in length.

FIGURE 4.1: TRIP DISTANCES WITHIN THE MPA



Data source: Replica, Fall 2023

In 2020, the Covid-19 pandemic abruptly shifted the work-life balance for many people across the country. Working from home or on a hybrid schedule has become normalized in many industries. Work hours have also shifted, leading to reduced peak hour traffic volumes but more sustained traffic levels throughout the day. Remote workers may find themselves taking more short trips throughout the day as their work schedule allows, like getting lunch or running errands close to home. Mobility patterns are still in flux, years on from the worst of the pandemic, as businesses and workers continue to find their individual office/home balances.

Planning for all types of trips in our daily lives while also reducing vehicle miles traveled will require prioritizing different modes for different types of trips. Short trips, under 0.5 miles, should be easily accessible by walking or rolling. This reflects Plan Onondaga's emphasis on walkable centers throughout the region. Medium-length trips, under 3 miles, should be accessible by bicycle. Various studies from across the country have shown that the median length of a bicycle trip is around 1.5-3 miles in length. Trips of this length easily provide access within individual villages, hamlets, and neighborhoods in our region. As previously noted, nearly one third of all trips within our region are already under 2 miles in length. Longer trips, including many commute trips, should be accessible by public transit where density exists to support transit corridors. The type of transit should match the environment; on-demand or circulator services, for example, may be better suited to some areas of the region while fixed-route transit is focused on the urban core and higher density corridors. Some trips in our region, especially to and from our more rural communities, will necessarily remain as vehicle trips and the road and highway network should be safe and reliable.

This framework does not mean that all trips at these specific lengths should be done via these specific modes of transportation. Instead, it emphasizes that these modes should be safe, accessible, and reliable at each of these trip lengths so that people have real choice in how they get around. This is a shift from our current network's emphasis on personal vehicle usage for nearly all trips.

The Onondaga Creekwalk provides safe and convenient access across the City of Syracuse along with connections to the Empire State Trail.

OUR EXISTING NEEDS: WHAT WE HEARD

Throughout 2024, SMTC staff were actively engaged in public participation efforts to better understand the needs and visions of our local community. Staff personally engaged with over 400 members of the community across nearly two dozen events, as well as an online survey and video, as discussed in Chapter 3. Through these engagement efforts, distinct themes about the needs of pedestrians, bicyclists, and transit riders emerged that reflect the new framework outlined within this MTP.

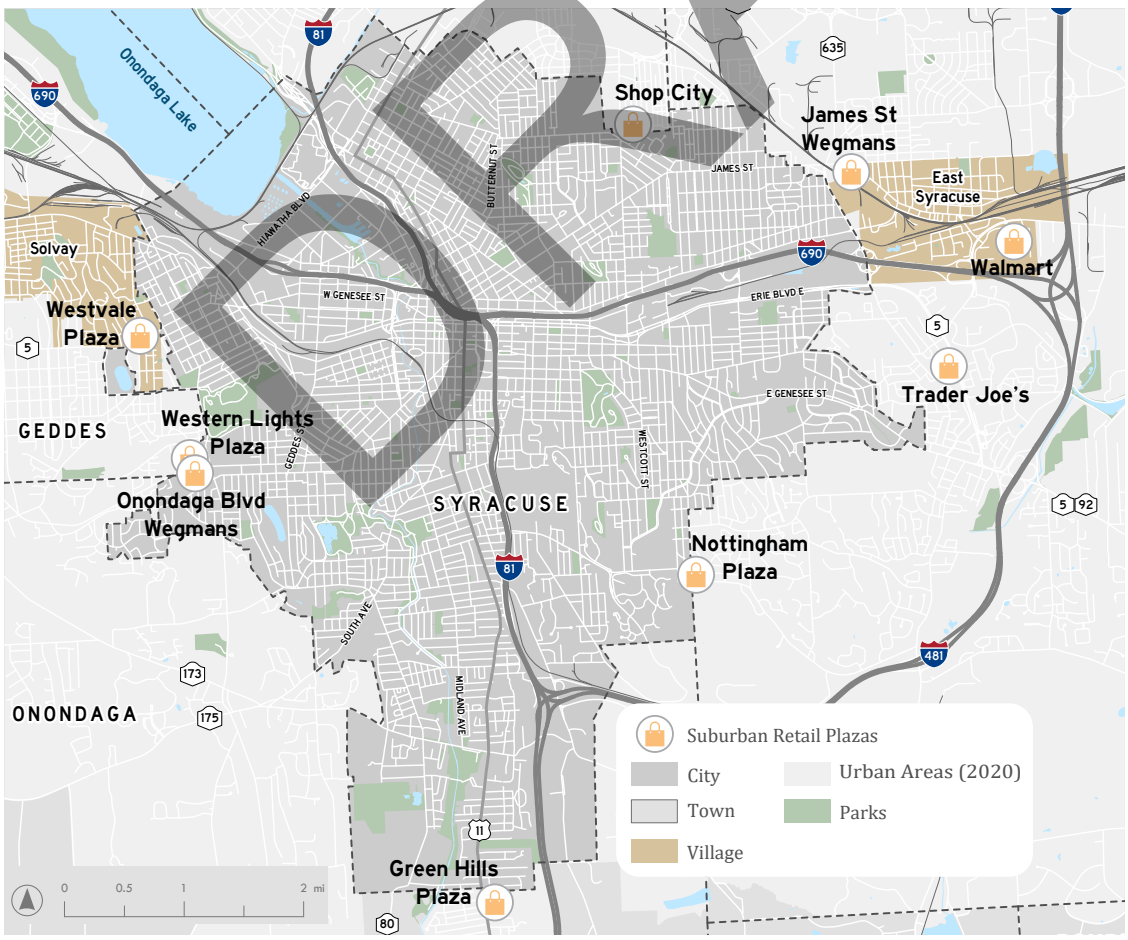
Sidewalk networks should connect municipalities.

Pedestrian infrastructure, including sidewalks, crosswalks, and pedestrian signals, are commonplace throughout most of the City and surrounding villages, but are far less common in suburban towns. Many suburban neighborhoods and developments benefit from low traffic volumes and speeds, allowing residents to walk on the roads within their immediate neighborhoods without issue. In contrast, many suburban commercial developments are located along busy thoroughfares that do not provide safe access outside of personal vehicles.

Community members have highlighted specific pedestrian issues "where the sidewalk ends" near inner ring suburban retail plazas. Several retail plazas are located just beyond city limits, but sidewalks often end at the city boundary. These plazas provide access to daily necessities, such as grocery stores, for city and town residents but the lack of dedicated pedestrian facilities creates safety issues for those who walk or roll. These locations also overlap with areas of demonstrated transportation insecurity (see Chapter 2).

Figure 4.2 highlights several retail plazas located just beyond the City of Syracuse boundary, where pedestrian infrastructure does not continue past the city line. Closing the gaps in the pedestrian network and addressing safety concerns at key intersections near these destinations should be a focus for our region.

FIGURE 4.2: SUBURBAN RETAIL PLAZAS NEAR CITY BOUNDARY



Local bicycle networks should improve access to neighborhood anchors, providing increased connectivity for shorter trips.

As noted earlier in this chapter, average bicycling trips range from 1.5 to 3 miles in length. In conversations with community members and their survey responses, people expressed a desire to shift some of their shorter vehicle trips, especially within their own neighborhoods, to bicycling, which may be less intimidating to new or infrequent riders than commuting to work by bicycle. Local bike networks will also provide access to the existing long-distance off-road bike networks for those that want to commute or ride farther.

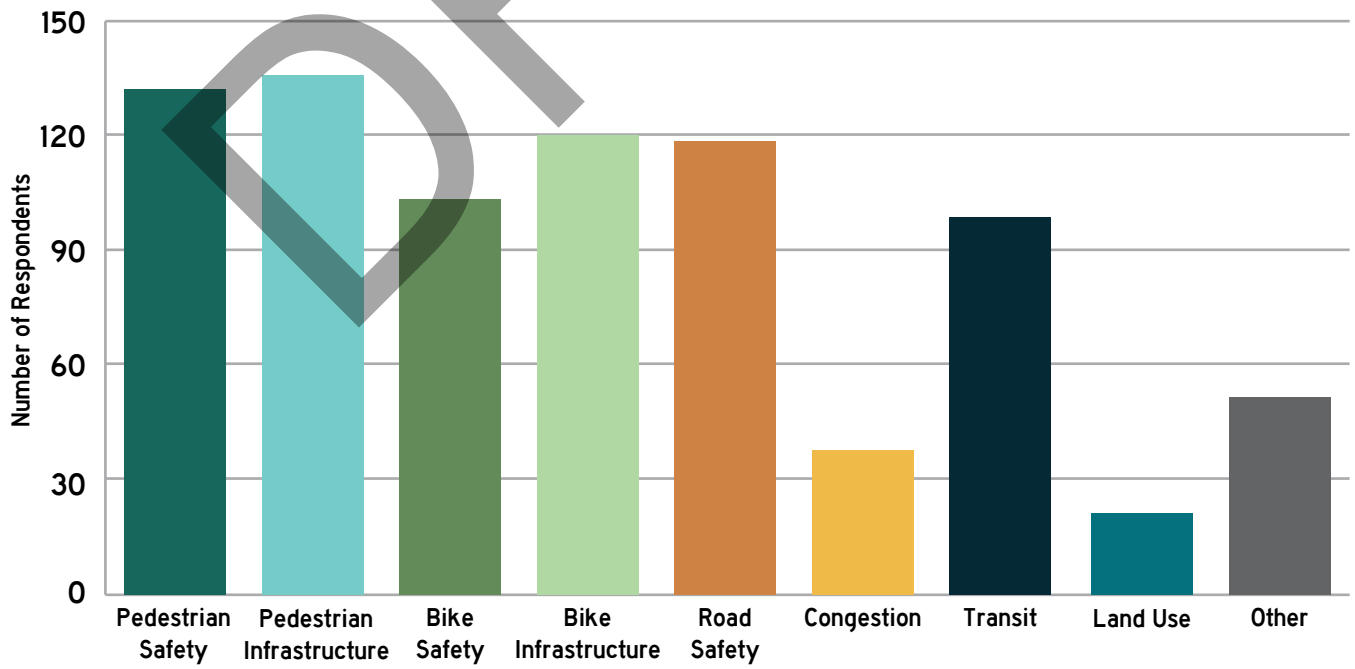
On the MTP survey, safety, and the perception of safety, was commonly cited as a reason why people do not currently ride their bicycles more. Survey respondents asked for more protected bicycle facilities along higher traffic volume roadways. Designated routes on low-stress streets (along with traffic calming measures) should also be part of the local network.

From a Regional Network to Local Connections

The LRTPs published in 2015 and 2020 emphasized the expansion of the regional trail network with a focus on a few long-distance off-road facilities. Since that time, the Empire State Trail through Onondaga County has been completed, along with the second phase of the Creekwalk and an expansion of the Loop the Lake trail along Onondaga Lake. The third phase of the Creekwalk, currently in the planning stages, will extend the trail south to the City line at Dorwin Ave. Planning for the completion of the Loop the Lake trail is also underway. With these "arteries" in place, we can shift focus to providing access to these facilities from throughout the region, as envisioned in the Onondaga County Empire State Trail Local Economic Opportunities Plan, completed by SMTC for Onondaga County in 2022.

Survey respondents highlighted the need for a better bike connection between the City of Syracuse's Northside neighborhood and the Onondaga Lake Parkway via Park St. This connection is seen as vital to the completion of the Loop the Lake trail, while also providing direct access to regional anchors, including Destiny USA, the CNY Regional Market, the Regional Transportation Center, and NBT Bank Stadium.

FIGURE 4.3: ISSUES AND OPPORTUNITIES, BY GENERAL TOPIC OF RESPONSE, FROM MTP SURVEY RESULTS



Community members desire frequent, reliable transit service.

Public engagement as part of the Exploring Tomorrow's Transit (ETT) effort in 2023 showed that people use the bus for many different types of trips, not just commuting. Sixty percent of ETT survey respondents indicated that they use Centro's bus service for shopping, appointments, recreation, and other non-work or school related trips.

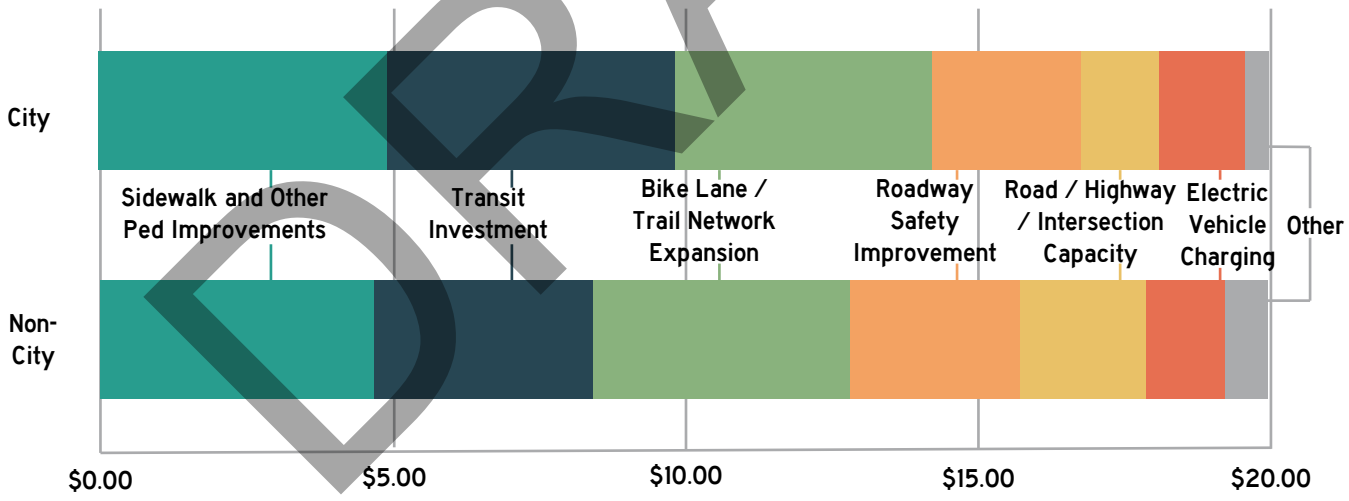
Increased frequency was the highest priority transit improvement for both riders and non-riders in the ETT survey.

One of the MTP survey questions asked how we should invest our limited transportation funds, beyond the necessary maintenance of the existing system. Transit investment was the second-highest category chosen by survey respondents (behind sidewalks and other pedestrian improvements, and just ahead of bike lane/ trail network expansion).

The road network may only require small tweaks in order to improve operations.

Road / highway / intersection capacity enhancement ranked relatively low, overall, as a future investment category on the MTP survey. However, roadway safety improvements received a more favorable response. Comments related to roadway investment tended to include suggestions for operational and safety improvements such as signal timing, red light cameras, roundabouts, traffic calming, and calls for "better traffic flow," with very few respondents suggesting any specific road or highway widening or new facilities.

FIGURE 4.4: AVERAGE SUGGESTED FUNDING ALLOCATION FROM MTP SURVEY, CITY AND NON-CITY RESIDENTS



CONNECTING FUTURE GROWTH TO MOBILITY OPTIONS

As the region transitions into a new era of growth, we will need to alter our development patterns, encouraging more concentrated development over sprawl to support mobility choice throughout the community.

Over the last 50 years, Central New York's population has remained relatively stable, while we have continued to grow outwards, resulting in a proliferation of relatively low-density development throughout the region. Continuing this land use pattern will strain our collective resources, requiring maintenance of an ever-larger network of services, including our transportation system. This growth pattern encourages reliance on personal vehicles while making it difficult to serve many communities with transit or active transportation.

The community has told us that they want to use transit for more trips but that many of the current bus routes do not run frequently enough to be a viable option. Some people have also expressed a desire for light rail service in our region. A major hurdle to increasing frequency, or adding rail service, is the lack of density in most parts of the region.

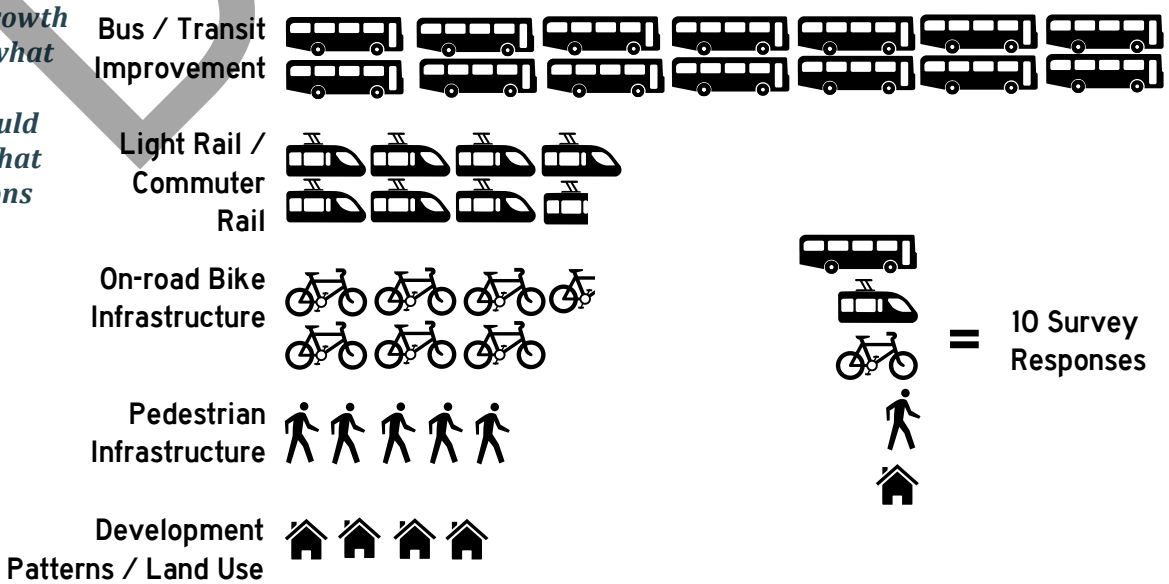
SMTC staff analyzed "activity unit density" in our region for current (2020) and future 2050 conditions - with anticipated household and employment growth - to understand where our land use pattern can support varying levels of transit service. "Activity units" is a measure of both jobs and households, and areas with a higher density of activity units are likely to support more frequent transit service. (See page 51 for a more detailed discussion of activity units.)

Current (2020) conditions support basic local bus service at 30-minute frequency within the City of Syracuse, several village centers, and some inner ring suburban towns, which are primarily considered "traditional centers" in Plan Onondaga. A few corridors within the City have existing densities capable of supporting enhanced service such as bus rapid transit (BRT).

As discussed in Chapter 2, our region is on the verge of a major growth spurt, due in large part to the anticipated investment in the semiconductor industry. SMTC staff consulted with planning and economic development staff at New York State, Onondaga County, the City of Syracuse, and regional agencies to determine the magnitude of future job and household growth and where that growth

FIGURE 4.5: TOP 5 TYPES OF TRANSPORTATION INVESTMENT SUGGESTED ON MTP SURVEY

With regional growth on the horizon, what transportation investments should we make today that future generations will thank us for tomorrow?



is likely to occur. The City of Syracuse is expected to grow by 12,900 households by 2050. Outside the city, the towns of Clay and Cicero are expected to see the largest increase in households, with 6,600 and 4,000 new households respectively. Significant job growth is projected in the towns of Clay and Dewitt, with 18,300 and 8,700 new jobs respectively, in addition to 23,200 new jobs in the City of Syracuse. The expectation is that this growth will generally follow existing, relatively low-density residential development patterns outside of the City of Syracuse, with the exception of a few large-scale, mixed-use projects. As shown by Figure 4.8, the high levels of activity unit density needed to support enhanced transit options, such as BRT in dedicated right-of-way or light rail, are only expected within the City of Syracuse (along the upcoming BRT lines) in 2050. A more focused approach to growth will be needed to support additional enhanced transit in the future. Plan Onondaga addresses this need with its focus on "strong centers," identifying different categories of centers for future growth including traditional, emerging, town growth, employment, and city centers. Onondaga County and municipalities within the county are working to modify comprehensive plans and zoning to encourage growth within centers, in order to support more multi-modal options.

FIGURE 4.6: ANTICIPATED HOUSEHOLD GROWTH, BY MUNICIPALITY

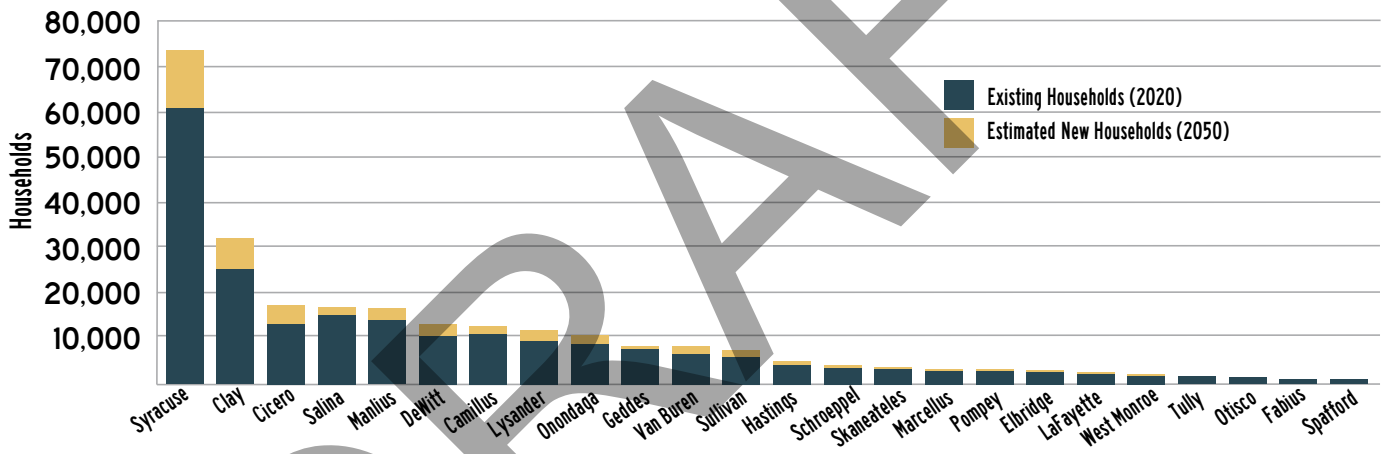


FIGURE 4.7: ANTICIPATED JOB GROWTH, BY MUNICIPALITY

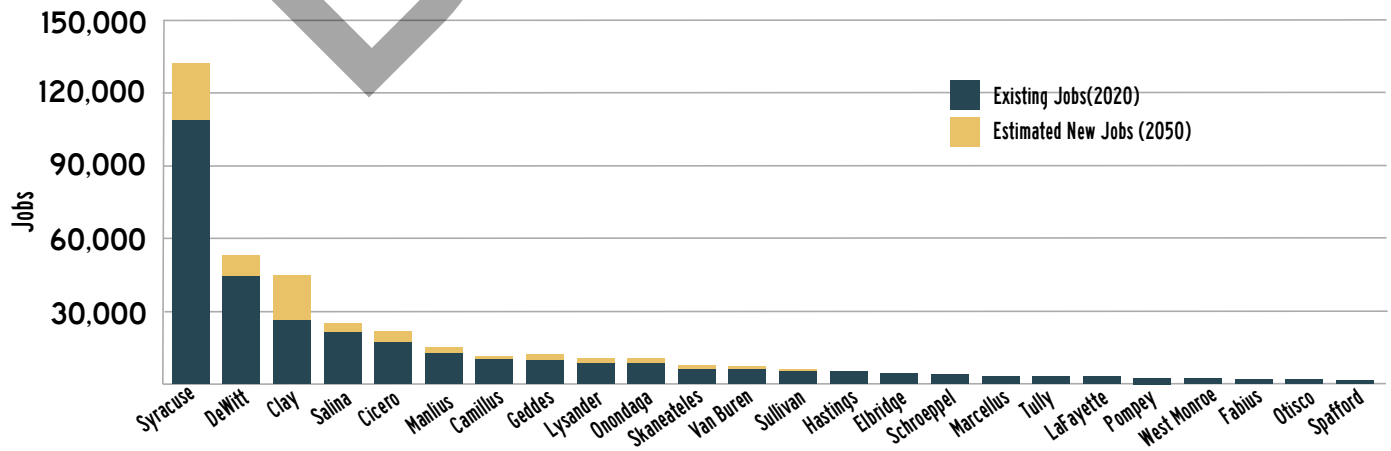
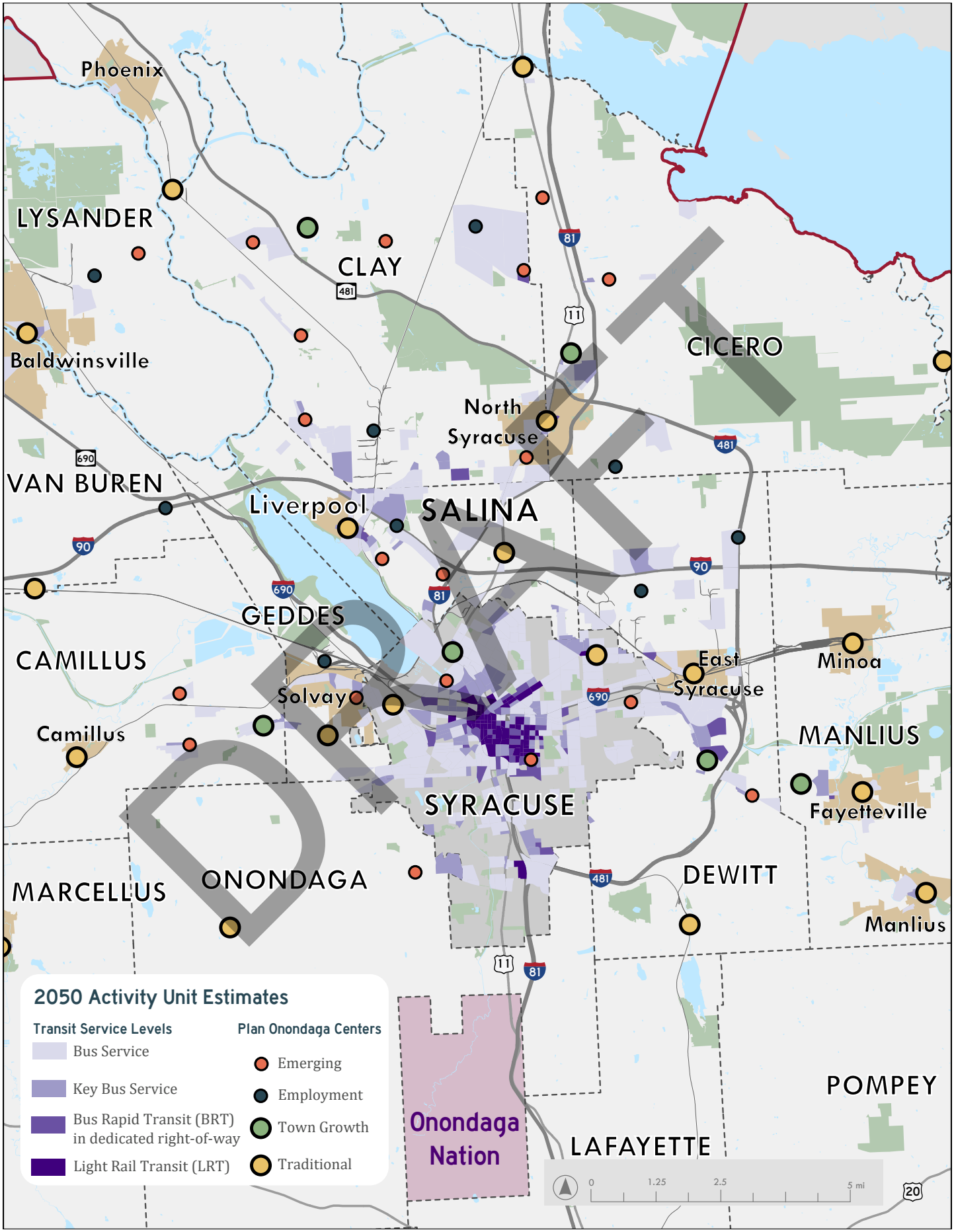


FIGURE 4.8: 2050 FUTURE BASE ACTIVITY UNIT DENSITIES AND ASSOCIATED TRANSIT SERVICE LEVELS



Activity Unit Density & Transit Service

Density is a key factor in how we choose to move around our communities. Denser communities support more active transportation modes, including walking and bicycling, as well as higher levels of transit ridership.

SMTC staff reviewed studies from across the country that evaluated levels of density, along with other demographic and economic factors, that influence transit usage. Each community evaluated different levels of transit service, from local buses to BRT to light rail, and determined which levels of density were likely to support each level of service. Some studies, such as the Southern Nevada High Capacity Transit Feasibility Study, used separate metrics for residential and employment densities. Other communities, such as the Seattle-area Puget Sound Regional Council's (PSRC) Regional Centers Framework, combined residential dwelling unit densities with employment densities to create a singular "activity unit" metric that better reflects the total level of activity in mixed-use areas.

Among the communities that used activity units, each has set different thresholds for different levels of transit service. For example, the PSRC sets a range of 18-45 activity units per acre as the threshold for bus rapid transit, while focusing light rail in areas between 30-85 activity units per acre. Just north of Seattle, but still within its metropolitan area, Community Transit in Snohomish County, sets the threshold for BRT in dedicated right-of-way at 30 activity units per acre and does not consider light rail transit as a viable mode for their community. These differences are due to the different characteristics of the communities, including existing densities, planned development, and existing infrastructure. Seattle is actively seeking to raise densities along existing light rail corridors closer to 85 activity units per acre, while Snohomish County's densest neighborhoods will remain closer to 30 activity units per acre.

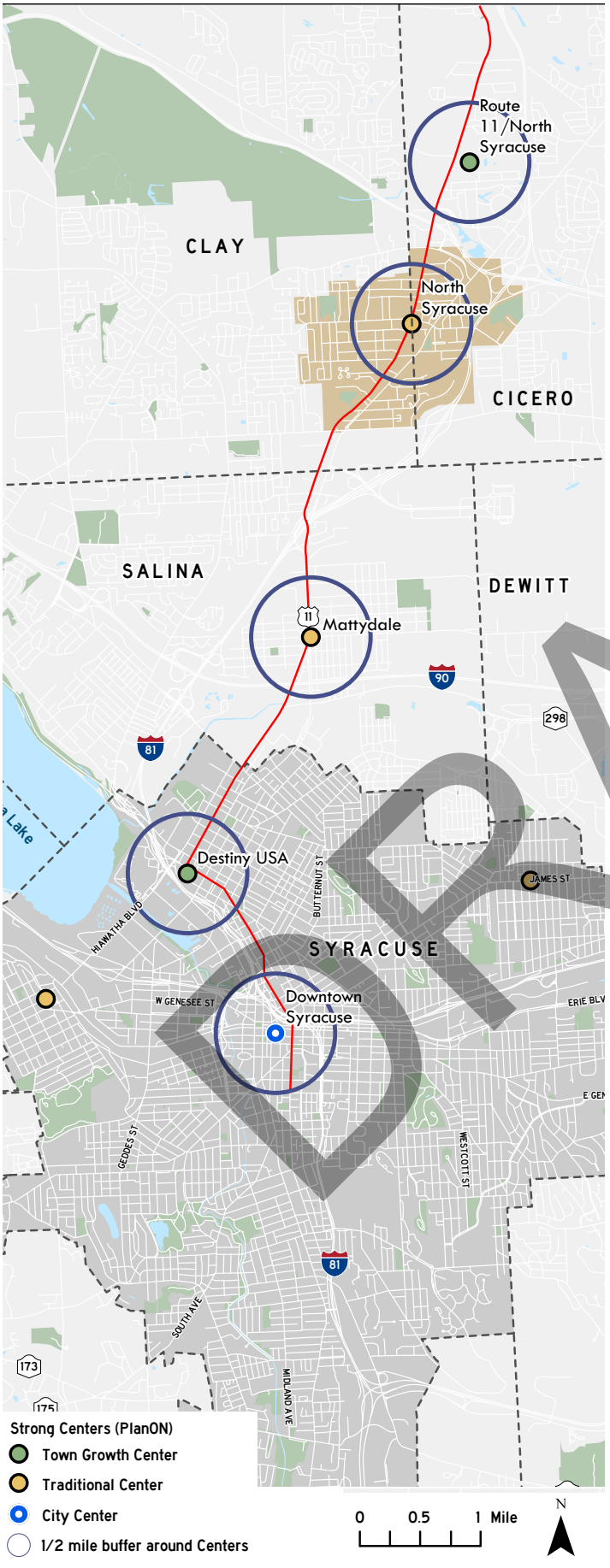
SMTC staff compared thresholds across studies and also reviewed previous analyses performed as part of the I-81 Challenge. The activity unit thresholds chosen for our analysis closely reflect those outlined by Community Transit due to similarities in existing densities and infrastructure, as well as Snohomish County's rapid growth that mimics growth projected for our region.

Level of Transit Service Supported		# of Activity Units Per Acre
Service Type	Headway* in minutes	
Local Bus, mixed traffic	30 min	7 - 15
Key / Express Bus, mixed traffic	15 min	15 - 30
Bus Rapid Transit (BRT), dedicated right-of-way	10 min	30 - 45
Light Rail Transit (LRT), dedicated right-of-way	<10 min	45+

* Time between bus arrivals

Villages throughout the region provide pockets of density that encourage active mobility choices.

FIGURE 4.9: TOWN GROWTH AND TRADITIONAL CENTERS ALONG RT 11



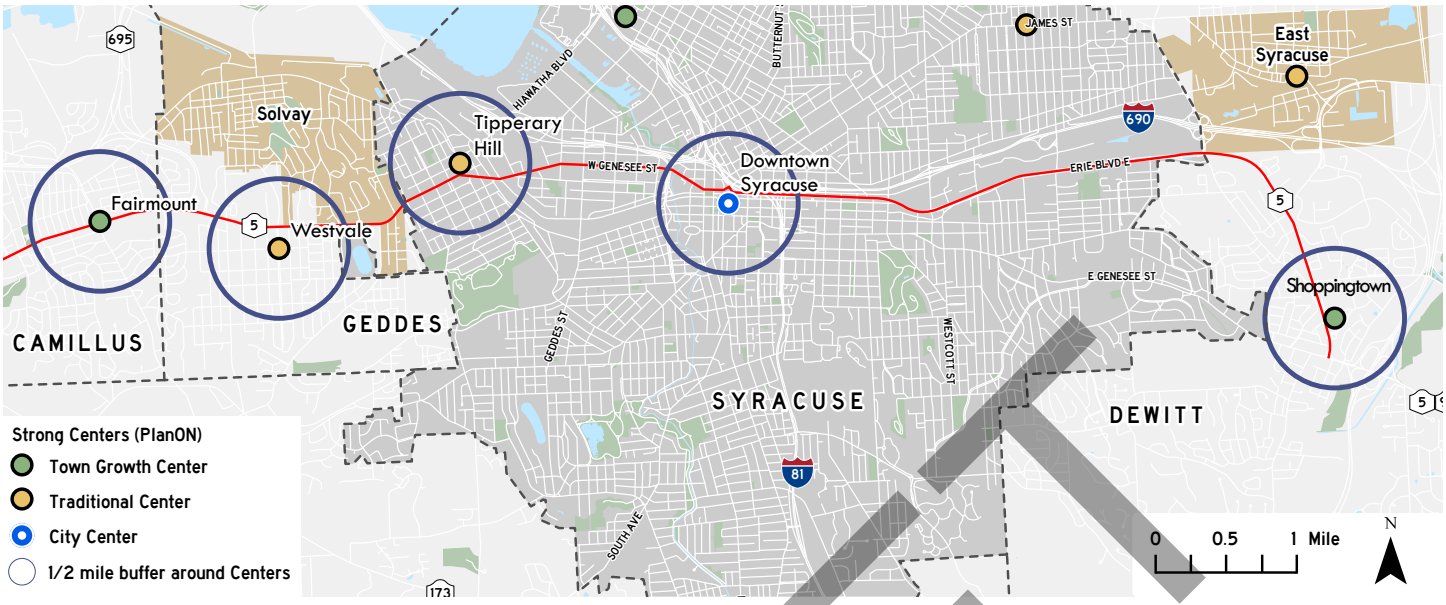
Encouraging the majority of the anticipated growth in the traditional and town growth centers presents the best opportunity to create the density to support the enhanced transit options that the community wants.

SMTC staff evaluated a "concentrated development" scenario that would create more mixed-use centers. This effort was taken on as a planning exercise only, to demonstrate the scale of development needed to successfully implement enhanced transit across the MPA. It is important to note that density is only one key factor in improving transit ridership and should be evaluated alongside economic and demographic factors when planning for future transit service.

Staff focused on the "traditional" and "town growth" centers identified in Plan Onondaga for this analysis, calculating how many *more* households would be needed within about a half-mile radius of each center to reach the density to support "local" (every 30 minutes) and "key" (every 15 minutes) bus service. To bring all traditional and town growth centers up to just the local bus service threshold, about 27,000 more households would be needed, beyond what is already anticipated for 2050. Over 200,000 households would be needed to support key bus service in all of these centers.

Understanding that this level of additional growth is not likely, staff examined the potential for just two transit supportive corridors. Route 11 north of the City and the W Genesee St/Erie Blvd East corridors were selected for this planning exercise. These corridors include multiple Plan Onondaga centers, and were also among the corridors originally identified as candidates for "enhanced transit" in the I-81 Challenge Transit Systems Analysis (in addition to the corridors that were ultimately selected for Centro's upcoming BRT system). Staff determined that about 4,000 households would need to be shifted into the centers along these two corridors to achieve the activity unit density needed to support key bus service. This level of density would

FIGURE 4.10: TOWN GROWTH AND TRADITIONAL CENTERS ALONG W GENESEE ST / ERIE BLVD E CORRIDOR



also support more mixed-use development in centers, and likely make walking and biking more attractive transportation options as well. The activity unit density in these transit-supportive centers would be comparable to what currently exists in city neighborhoods such as Eastwood or Court-Woodlawn.

The concentrated development scenario demonstrates the need for coordination between land use and transportation planning, as well as the need to focus on achievable transit improvements. Although some people have expressed a preference for new modes of transit, successful implementation of BRT with dedicated lanes or light rail would require substantially more growth in our region than what is currently anticipated, and a dramatic shift in our approach to zoning and development. Public feedback indicates that lack of frequency is the greatest deterrent to using the bus.

Higher-frequency, reliable, enhanced bus service can be successful in our community by focusing on smaller changes to zoning regulations in a few corridors that link existing centers.

The Court-Woodlawn neighborhood on the Northside of the City of Syracuse mixes single-family residential units with two-family homes and small apartment buildings.

STRATEGIES TO ACHIEVE OUR GOALS

The MTP Goals and Objectives aim to address the existing and future needs of our community by focusing on the impacts of growth and new technologies on our economy, community, and environment.

Capital projects identified in Chapter 5, as well as our priority funding initiatives discussed in Chapter 3, should be viewed through the lens of our Goals and Objectives. Strategies identified below each goal demonstrate how each goal can be put into practice.

☆ Related to a Priority Funding Initiative as discussed in Chapter 3.

Economy

Syracuse, along with many other cities across Upstate New York and within the wider Rust Belt region, has experienced periods of economic stagnation and decline over the last 50 years due to deindustrialization, transitioning towards a service economy, specifically in the medical and education sectors (the "Eds and Meds"). Over the last decade, new private sector investments have begun to stabilize and grow our economy, including in new industries such as unmanned aerial systems (UAS) and agricultural technologies. Still, our current economic environment has not provided broad prosperity throughout our region and has left a significant divide between the City of Syracuse and the remainder of the MPA, as discussed in Chapter 2. As the economic landscape changes due to incoming industrial investments and spin-off job growth, the challenge facing the Syracuse Metropolitan Area today is ensuring all residents have access to new opportunities.

GOAL: Support efficient and reliable freight movement

With increased freight movements projected as a result of the incoming investments in our region, the reliability and efficiency of the National Highway System (NHS) is imperative to our economic growth. As more freight moves through the region, reliability ensures goods and materials reach their destinations as expected. Reliable networks are predictable and stable, allowing industries to focus on growth without worrying about their everyday movements.

Investments focused on reliability and efficiency identify pinch points within our transportation network. This includes larger scale investments providing improved access to the interstate highway system as well as smaller investments at key intersections.

Construction on the I-81 Viaduct Project is altering how traffic from the northern and southern suburbs access the central City neighborhoods.

★ Business Loop 81

NYSDOT has already made significant progress on the I-81 Community Grid project, with substantial changes to the existing I-481 and the I-81/I-481 interchanges nearly complete and work on I-690 (including a new interchange) set to begin. Work within the final two contracts is expected to begin in 2025, completing the changes necessary to fully implement the new Business Loop 81. Ultimately, this will improve reliability and efficiency of the highway system and support economic growth in the region.

★ White Pine Commerce Park Regional Accessibility

With significant industrial development occurring at the White Pine Commerce Park in the Town of Clay, transportation and mobility improvements will be implemented to ensure access for workers and freight movements. Accessibility improvements will include changes to the highway and road networks, along with dedicated transit service to major employers within the park.

GOAL: Expand access to opportunities and services

As our region grows, our transportation network should provide access to opportunities and services for residents through all forms of mobility. Personal vehicles remain the dominant form of transportation in the Syracuse metropolitan area, but come at a great expense, both in terms of personal finances and public investments. Ensuring residents, regardless of income, have access to jobs, services, and other opportunities requires broadening the view of the transportation system to emphasize safe, reliable movements for public transit and active transportation options. This includes access beyond the traditional workday to better accommodate varying work schedules and the daily needs of residents beyond employment.

★ Bus Rapid Transit

Centro will construct and implement two bus rapid transit (BRT) lines to improve mobility within their system. The transit lines include Destiny USA to Syracuse University (SU) and Eastwood to Onondaga Community College (OCC), with an extension down S Salina St from the Hub to Valley Plaza. BRT service will include headways under 15 minutes and extended service hours.

Centro Maintenance and Operations

Centro will continue to operate and maintain their local routes in Onondaga County, with some anticipated system-wide service changes as a result of their current "Better Bus" effort. The redesigned system will provide fixed-route and on-demand services that complement the BRT, resulting in a system that better fits the community's travel needs.

★ Bicycle Commuter Corridors

SMTC completed the Bicycle Commuter Corridor Study in 2013, identifying road segments best suited to commuting by bicycle. SMTC's current UPWP includes a follow-on study to further develop specific implementation plans. Building-out this network over the next 10-15 years will require coordination with and investment by multiple road owners (local, County, and State).

GOAL: Address new and rapidly changing technologies

Innovations in transportation technology are rapidly changing how we move through our communities. Widescale adoption of electric vehicles, the expansion of shared micromobility options and on-demand transportation, and the integration of smart technologies into our traffic signals and streetlights are already impacting our transportation network with other significant changes on the way. Autonomous vehicles (AVs) and widespread use of drone delivery technologies are on the horizon. To ensure these technologies are utilized safely, we must plan for how they are integrated into our transportation system, including where they will be allowed to operate and how they must interact with other road users.

New Traffic Management Center

NYSDOT Region 3 currently operates their own Traffic Management Center (TMC), as does the City of Syracuse. There is a long-term interest in constructing a new TMC for Region 3 and also in joint operation to streamline operations management for the region.

Transportation Systems Management and Operations (TSMO)

A variety of projects and ongoing programs are necessary to ensure continued operation of TSMO components in our region. For example, the City's current capital plan includes upgrading traffic management center equipment and replacement of the fiber optic trunk for the signal interconnect system. The County and NYSDOT continue to upgrade signal controller equipment and install camera detection that also provides a wealth of data for future analysis and planning.

EV Charging Station Expansion

With the adoption of the California Air Resources Board Advanced Clean Cars II regulation in 2022, all light-duty passenger vehicles sold in New York State must be ZEVs by 2035. To accommodate this transition and the quickly growing EV market, State, County, and local leaders continue to expand the local EV charging station network. This includes implementing municipal charging stations and encouraging private charging stations at anchor destinations.

Community

Sprawl without growth has been the dominant development pattern within Central New York for the last 50 years. New residential and commercial development has occurred farther from many of our traditional centers, shifting the demographic and economic landscape as a result. Housing affordability has become a key issue both in the urban core and surrounding suburbs as quality affordable housing has become scarce. Employment opportunities, while still concentrated within employment clusters, can be difficult to reach for residents without access to a personal vehicle. As the region transitions into an era of growth, focusing that growth in targeted areas and in ways that both complement the existing context and are accessible to everyone will be key to ensuring our success.

GOAL: Provide and maintain a safe, secure, and reliable transportation network

Safety is a priority for our transportation network. Our region cannot grow and prosper without the safe movement of people and goods throughout our street network. Vision Zero programs have begun within the City of Syracuse and Onondaga County, which aim to reduce traffic deaths and serious injuries to zero through the use of the Safe Systems approach, including design changes to our road network. Since 2022, the City of Syracuse has installed dozens of speed cushions, which aim to slow vehicles on neighborhood streets, creating safer streets for all mobility modes. Protected bicycle facilities, including the Empire State and Loop the Lake trails, aim to remove conflicts for cyclists while increasing connectivity. By reducing crashes and conflict points, our transportation network can reliably provide access to opportunities and services for all residents.

Maintain Existing Roads and Bridges

Paving existing roads and rehabilitating or replacing existing bridges will continue to consume a very large proportion of our transportation funds. Our transportation system was largely built to accommodate a growing population in the 1960s and 1970s and requires ongoing maintenance to remain safe and efficient. Many of our Interstate bridges are being addressed as part of the I-81 Viaduct Project.

Vision Zero

The City of Syracuse has completed a Vision Zero / Complete Streets Action Plan, identifying opportunities and strategies to address different road typologies throughout the City. The Plan recommends changes to roadway design, pedestrian and bicycle infrastructure, and operations with the aim of reducing traffic fatalities to zero. The City's capital plan includes ongoing funding for implementation of Vision Zero recommendations and the Complete Streets program, including speed humps, radar equipment, and pavement marking and signage updates.

Intersection Pedestrian Improvements

Based on recommendations from a 2019 SMTC study, Geddes St and W Fayette St, within the City of Syracuse, will receive complete streets treatments aimed at improving pedestrian and bicycle mobility and accessibility within the Westside neighborhoods. This includes Pedestrian Safety Action Plan (PSAP) improvements at intersections, new striping, and the expansion of bicycle facilities.

Onondaga Lake Parkway Safety Improvements

NYSDOT will implement changes to the Onondaga Lake Parkway to enhance safety for all users, including reducing the number of travel lanes and installing median barrier.

Safe Streets and Roads for All

Onondaga County is currently preparing a Safe Streets and Roads for All Action Plan, utilizing SS4A funding awarded by FHWA. Future capital programs are likely to allocate funds to implementation of the actions recommended in the plan.

GOAL: Support targeted growth in urban, suburban, and rural communities

Dense nodes of activity, including residential and commercial spaces, are vital to providing mobility options to residents and visitors. Concentrating incoming growth into specific centers, including reuse and infill development in existing centers, and investing in existing infrastructure within those centers will improve access to needed resources for all residents. Access and mobility choice are vital in areas with transportation insecurities that limit residents' ability to reach opportunities and services. Focusing investment within communities experiencing financial distress and transportation insecurity is essential to overcoming entrenched poverty and bridging economic divides within our community.

See Chapter 2 for a spacial analysis of the overlap between distressed communities and transportation insecurities.

Centro's system redesign will build around the implementation of the BRT system. Eastwood, along with other City neighborhoods, will see more frequent transit service as a result to these changes.

★ Reconnecting Communities

As part of the larger I-81 Viaduct Project, and in coordination with the reimagining of the East Adams Neighborhood, the Reconnecting Communities capital grant will aim to improve pedestrian and cycling access and mobility along major corridors near Downtown Syracuse. This includes shared use paths, cycle tracks, and pedestrianized areas that help to better connect residents to services and opportunities.

Collector Roads in Strong Centers

Supporting future strong centers as the region grows will require some new collector roads, likely to be locally-owned, to provide access to new development while preserving the capacity and efficiency of the region's arterials. New collector roads should be built to safely accommodate all users, including bicyclists and pedestrians, and to facilitate efficient movement between local streets and arterials. These roads are likely to become the "main street" of new neighborhoods, and include the adjacent mixed-use development that will anchor a strong center.

Complete Street Grids in City Neighborhoods

The City of Syracuse is pursuing a few different large-scale neighborhood investments that will necessitate new or enhanced transportation infrastructure. Plans for the East Adams neighborhood look to reconnect the street grid to create a more cohesive neighborhood, and the planned redevelopment of the former Syracuse Development Center will require a new central roadway.

★ Centro System Redesign

Responding to changes in where people live, work, and shop, Centro is undertaking a system redesign that will enhance connectivity and improve the quality of service. Quality transit service is vital to encouraging people to ride transit instead of driving alone.

GOAL: Enhance mobility and accessibility between all modes of travel

Our new framework emphasizes providing safe, reliable mobility options that fit the purpose and distance of each unique trip. Broadening the mobility options available to residents will also require enhancing the connections between modes. People may be more likely to walk or bike if they know they can also easily connect to the bus system for a longer trip. For those without a personal vehicle, multi-modal connections improve their overall access to opportunities throughout our region.

Providing dedicated space for alternative modes of transportation and improving transit service allows for increased connectivity between modes.

★ Westside Trail

Aimed at creating a safe, accessible connection between the City's Westside and Downtown Syracuse, the physically separated shared-use path will utilize an abandoned railroad bridge to guide pedestrians and cyclists over the W Fayette St / S Geddes St intersection and through the Lipe Art Park on their way towards the central business district.

Regional Market Mobility Improvements

Implementing mobility improvements, including the construction of improved sidewalks and a potential shared-use path, will allow for greater access to two key regional anchors, the CNY Regional Market and the Regional Transportation Center. Improved pedestrian infrastructure at key signalized intersections will improve safety and accessibility for all modes of transportation.

"Road Diets" and Multi-Modal Improvements

Many of the paving projects in the first five years of this plan include the addition of sidewalks, bike lanes, and/or multi-use paths. Projects on Onondaga Blvd, Teall Ave, and James St also include "road diets" – reducing four travel lanes to two travel lanes plus a center turn lane – to calm traffic, improve safety, and create space for multi-modal enhancements. The James St project is an outcome from a 2011 SMTC study, and is also a key element of the BRT system. The Onondaga Blvd and Teall Ave projects will provide important links to services located in towns along the city's edge.

★ Local Connections to the Empire State Trail

With the Empire State Trail now complete, focus is shifting to more local connections to the EST and the wider regional trail network. SMTC completed the EST Local Economic Opportunities Plan in June 2022, and further refined anticipated cost estimates for a few local connections along County roads: village/town of Camillus, State Fair Blvd, Minoa Rd, and Burdick St. The 2025-2026 UPWP includes a follow-on study to work with municipalities to move towards implementation.

Environment

Protecting and preserving our region's natural ecosystems and ecologically significant areas is prominently written within nearly every local comprehensive plan around Central New York. Additionally, the preservation of rural communities and agricultural lands are key priorities for Onondaga County and many smaller communities throughout the region. Yet, suburban sprawl has crept in on many of the environments our planning efforts have stated they wish to protect. Balancing the need for new development and protecting these important areas will only become more difficult as the region experiences significant population growth for the first time in 50 years.

GOAL: Protect, enhance, and connect important ecosystems and ecologically significant areas

Our transportation network must balance the needs of providing access to natural environments for residents and visitors with protecting those important ecosystems from the damages caused by the expansion of impervious surfaces, such as roadways, and the polluted runoff that results from them. Any expansion of our transportation network must consider the long-term impacts on the environments in which they operate. As noted earlier, large portions of our transportation network are capable of handling larger volumes of traffic than currently exist. Further expansions of our transportation network, including widening of roadways, must be limited in order to protect existing ecologically significant areas.

Improving access to mobility choices throughout our region is essential to addressing the challenges associated with the effects of climate change. Reducing vehicles miles traveled per capita can be achieved through the expansion of safe and reliable alternative options, including transit, local bicycle networks, and pedestrian infrastructure. Shifting shorter, local trips away from personal vehicles can help address the wear and tear of our road network while reducing overall emissions. Expanding the urban tree canopy and incorporating green infrastructure, such as bioswales, into our urban environments will help reduce some of the negative impacts of road infrastructure, including runoff and the urban heat island effect, while also creating more pleasant environments in which to walk or ride a bike.

The Onondaga Creekwalk and Empire State Trail connect users to Syracuse's Inner Harbor.

★ Onondaga Creekwalk Phase III

The Creekwalk is the premier bicycle route through the City of Syracuse. Phase III will extend the existing trail 3 miles to the southern City line at Dorwin Ave. This final phase will connect residents across the City and region to several parks and recreational areas, including a new kayak launch at Meachem Park in the City's Valley neighborhood.

★ Loop the Lake Trail

Two Onondaga Lake Canalways Trail extension projects will bring the Loop the Lake trail to completion. The work will include a new bridge across the CSX railroad and Ley Creek, allowing pedestrians and cyclists to safely connect to the regional trail system and many community destinations, including several county parks and ecologically significant areas.

GOAL: Ensure communities are well-equipped to mitigate / adapt to the effects of climate change and support resiliency of transportation facilities

Culvert improvements are key to addressing flooding concerns.

Improve Drainage Systems

Upgrading and enhancing large culverts throughout the region with the aim to improve the overall highway drainage system and pavement, addressing deficiencies within the current network.

IMPACTS OF OUR STRATEGIES

The SMTC's travel demand model was used to evaluate the impacts of future scenarios. The travel demand model uses household and employment data as inputs, and provides estimates of daily vehicles miles traveled (DVMT) in the region. Table 4.1 provides the modeled DVMT estimates for the Syracuse MPA. The 2020 Base represents the existing conditions. All 2050 scenarios include the household and employment projections developed by SMTC staff in coordination with various planning and economic development agencies and municipalities, plus the following:

- **2050 Future No-Build:** removal of the I-81 viaduct in downtown Syracuse and completion of the I-81 Community Grid; no other transportation system changes.
- **2050 Anticipated Future:** removal of I-81 viaduct plus additional transportation projects that SMTC member agencies anticipate completing by 2050, aligning with the strategies described in the previous section.
- **2050 Concentrated Development:** all projects in the 2050 Anticipated Future scenario with the same amount of household and job growth but concentrating some future growth in two transit corridors with more frequent bus service.

All future (2050) scenarios show an increase in total DVMT of just under 20 percent compared to 2020 conditions, due to the anticipated population growth of nearly 17 percent between 2020 and 2050. While the difference in outputs between scenarios is very modest, the No-Build shows the greatest increase in DVMT and the Concentrated Development scenario shows the least increase in DVMT compared to existing conditions. The model outputs show similar modest changes in per capita DVMT between scenarios.

The results from the 2050 Concentrated Development scenario illustrate that significantly changing the projected VMT would require large scale changes to the anticipated future patterns of development or shifts in mode choice, which often go hand in hand. Increasing the density of activity, including residential and employment clusters, helps to encourage drivers to shift to mass transit or other mode choices for a variety of trips.

What is the Travel Demand Model?

SMTC's travel demand model has been updated to a base year of 2020 and a horizon year of 2050 for the purposes of this MTP and other planning efforts, including the I-81 Viaduct Project and the White Pine Business Park build-out. SMTC's travel demand model is a "four step model" that can be used to predict the amount, type, and location of travel that residents will undertake, now and in the future. The model uses inputs such as population and economic forecasts, the geographic dispersion of people and jobs throughout the region, and a description of the transportation system (roads and transit system). Growth estimates and their geographic distribution for the horizon year have been determined through conversations with member agencies, including New York State, Onondaga County, the City of Syracuse, and other regional agencies. The model outputs can be used to evaluate the regional impact of changes to the transportation system, changes in land use, or changes in policy (such as pricing). The travel demand model cannot forecast future land use or evaluate traffic operations at specific intersections. In addition to its use for the MTP and Congestion Management Process, the SMTC utilizes the travel demand model in subarea or corridor studies, which may include evaluating different development patterns, such as infill development or more dispersed development, or the impacts of different levels of density or types of uses (commercial or residential, for example). The model can also be used to evaluate the impact of additional road connections on travel patterns in the region.

Anticipated Future (2050) Model Network Projects

In addition to household and employment projections, the 2050 Anticipated Future and the 2050 Concentrated Development model scenarios incorporate capital projects that member agencies anticipate completing over the life of this MTP, to implement the strategies described in the previous section. These projects include the following:

Centro
- BRT system (2 lines)
- Additional future headway reductions / future system redesign

NYSDOT
- Business Loop 81, Southern Section, Phase 2, Syracuse (Contract 8)
- Business Loop 81, Northern Section, Phase 2, Syracuse (Contract 7)
- Caughdenoy Rd / NYS Rt 31 improvements
- Safety improvements, Rt 11, I-81 off ramps to Rt 11A
- Safety improvements, Rt 11 at Rt 49 intersection, Village of Central Square
- Onondaga Lake Parkway safety improvements, Old Liverpool Rd to I-81 ramp, Town of Salina
- Intersection improvements, NY 5 and NY 257, Fayetteville

OCDOT
- Paving, Onondaga Blvd, City boundary to Fay Rd, Town of Onondaga (road diet)
- Pedestrian & safety improvements, Teall Ave (road diet)
- Buckley Rd shared turn lane and Buckley/Bear intersection upgrades
- 7th North Street/Buckley Rd intersection upgrades
- Vine St improvements, village line to Burr Dr (Town of Salina)
- John Glenn Blvd/Route 57 capacity enhancement

City of Syracuse
- Erie Blvd W improvements, Franklin St to W Genesee St
- James St improvements, S Salina St to Grant Blvd
- E Adams St / 15th Ward reconnection / complete street grid
- Teall Ave improvements, Burnet Ave to Grant Blvd
- Downtown one-way to two-way street conversions
- Roundabout at James/Shotwell/Grant
- Water Street closure, South Crouse Ave to Beech St

TABLE 4.1: DAILY VEHICLE MILES TRAVELED IN THE SYRACUSE MPA

Scenario	Total DVMT in the MPA		Per Capita DVMT	
	Miles	% change from 2020 Base	Miles	% change from 2020 Base
2020 Base (existing)	13,445,330	---	27.45	---
2050 Future No Build	16,122,615	+19.9%	27.39	-0.2%
2050 Anticipated Future	16,111,515	+19.8%	27.37	-0.3%
2050 Concentrated Development	16,057,953	+19.4%	27.28	-0.6%

West St will be altered as part of the Community Grid to improve connectivity within Downtown Syracuse.

Measuring congestion

SMTC's 2025 Congestion Management Process (CMP) examined various measures of congestion on a representative road network, identified as the CMP Network, within our region using the 2023 National Performance Management Research Data Set (NPMRDS). The CMP Network consists of road segments the SMTC considers part of a "primary commuter corridor" within the FHWA adjusted urbanized boundary. The segments must be on the National Highway System (NHS), an arterial (principal or minor) with over 10,000 annual average daily traffic (AADT), or provide connections between facilities that have met either of the first two criteria. Through the use of the CMP Network, the analysis provides a detailed assessment of existing congestion in the region. Overall, the region's road system functions well, with minimal areas of excessive congestion that are limited mainly to intersections and small segments of non-access-controlled facilities. Some of the most persistent congestion is experienced in and around Downtown Syracuse, an area that one may argue benefits from congestion and should not be designed with free-flowing traffic in mind.

As the CMP notes, significant changes in our region, both in terms of land use and the transportation system, may impact the location and intensity of congestion. To examine the impacts of future growth and anticipated projects on congestion, outputs from the SMTC's travel demand model were analyzed for travel time index (TTI), which measures the additional time required to travel across a road segment during peak hours as compared to times of light traffic. Road segments are considered to be congested if the TTI is 2.0 or greater. The results for each modeled scenario are summarized in Table 4.2.

With significant growth anticipated over the next 25 years, all future scenarios see an increase in both roadway mileage and the percentage of roadways experiencing congestion during the AM and PM peak conditions, when considering TTI. In each future scenario, primary commuter corridors are projected to see roughly 10 additional miles in both the AM and PM peaks that experience congestion, corresponding to 15 and 17 percent of roadways, respectively. Primary freight corridors see a smaller increase of between 3 and 4 additional miles experiencing congestion in the AM and PM peaks, corresponding to approximately 12 and 15 percent of roadways, respectively.

TABLE 4.2: CONGESTION ON PRIMARY COMMUTER AND FREIGHT CORRIDORS

Analysis year / scenario	Miles with TTI >2.0 (% of total mileage)*	
	AM Peak	PM Peak
Primary commuter corridors		
2020 Base (existing)	35.9 (11.5%)	45.2 (14.4%)
2050 Future No-Build	46.9 (14.9%)	55.2 (17.5%)
2050 Anticipated Future	47.1 (14.9%)	55.2 (17.5%)
2050 Concentrated Development	46.3 (14.7%)	54.8 (17.4%)
Primary freight corridors		
2020 Base (existing)	9.2 (3.9%)	11.0 (4.7%)
2050 Future No-Build	12.4 (5.2%)	15.3 (6.5%)
2050 Anticipated Future	12.1 (5.1%)	15.5 (6.5%)
2050 Concentrated Development	11.9 (5.0%)	15.5 (6.5%)

* Primary commuter corridors total mileage: 313 miles (2020), 315 miles (2050).

Primary freight corridors total mileage: 234 miles (2020), 238 miles (2050).

The change in mileage is due to inclusion of the Community Grid in the future model.

Emissions and energy analysis

SMTC utilized the U.S. EPA's MOVES5 software to estimate on-road mobile source emissions and energy usage associated with the 2050 Future No Build, 2050 Anticipated Future, and the 2050 Concentrated Development scenarios. The results of this analysis are shown in Tables 4.3 and 4.4, and a more detailed explanation of this analysis can be found in Appendix F.

This analysis indicates a significant drop in emissions from the 2020 Base scenario to the 2050 Future No Build scenario. This is primarily because the MOVES model assumes increases in vehicle efficiency in future years. As older vehicles leave the fleet and are replaced by newer vehicles with the higher standards, the average fleet efficiency will increase.

As discussed in Chapter 2, NYS Executive Order 22 and the adoption of the California Air Resources Board Advanced Clean Cars II regulation, requires that all light-duty passenger vehicles sold within the State must be zero emission vehicles (ZEVs) by 2035, with medium- and heavy-duty vehicles following by 2045 (with the State's vehicles fleet transitioning by 2040). According to the NYSERDA Electric Vehicle Registration Map, about 176,000 ZEVs are registered in New York State as of May 2025, including about 5,000 in Central New York.

While overall VMT is expected to increase in the Syracuse MPA from 2020 to 2050, the overall on-road mobile source emissions are expected to decrease substantially. Similarly, the energy analysis shows a decrease in total energy use between the 2020 Base and 2050 Future No Build scenarios. An additional, though relatively small, decrease in energy use is associated with the 2050 Anticipated Future and 2050 Concentrated Development scenarios.

TABLE 4.3: EMISSIONS SUMMARY

All figures in tons per year.

Analysis year / scenario	Total Gaseous Hydrocarbons	Carbon Monoxide (CO)	Oxides of Nitrogen (NOx)	Non-Methane Hydrocarbons	Volatile Organic Compounds	Atmospheric CO2
2020 Base (existing)	699	11,982	2,075	584	610	2,394,220
2050 Future No-Build	530	5,873	446	459	480	1,460,562
2050 Anticipated Future	530	5,820	446	460	480	1,434,107
2050 Concentrated Development	529	5,806	445	459	480	1,428,595

TABLE 4.4: ENERGY USAGE SUMMARY

All figures in millions of BTUs per year.

Analysis year / scenario	Total Energy
2020 Base (existing)	28,292,341
2050 Future No-Build	19,847,290
2050 Anticipated Future	19,837,812
2050 Concentrated Development	19,771,465

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