TUCKER SUMMIT COMMUNITY IMPROVEMENT DISTRICT FREIGHT CLUSTER PLAN

Inventory and Assessment Report

August 24, 2020

PREPARED FOR:

TUCKER SUMMIT
Community Improvement District
CONNECTIVITY, CONVENIENCE & ACCESSIBILITY

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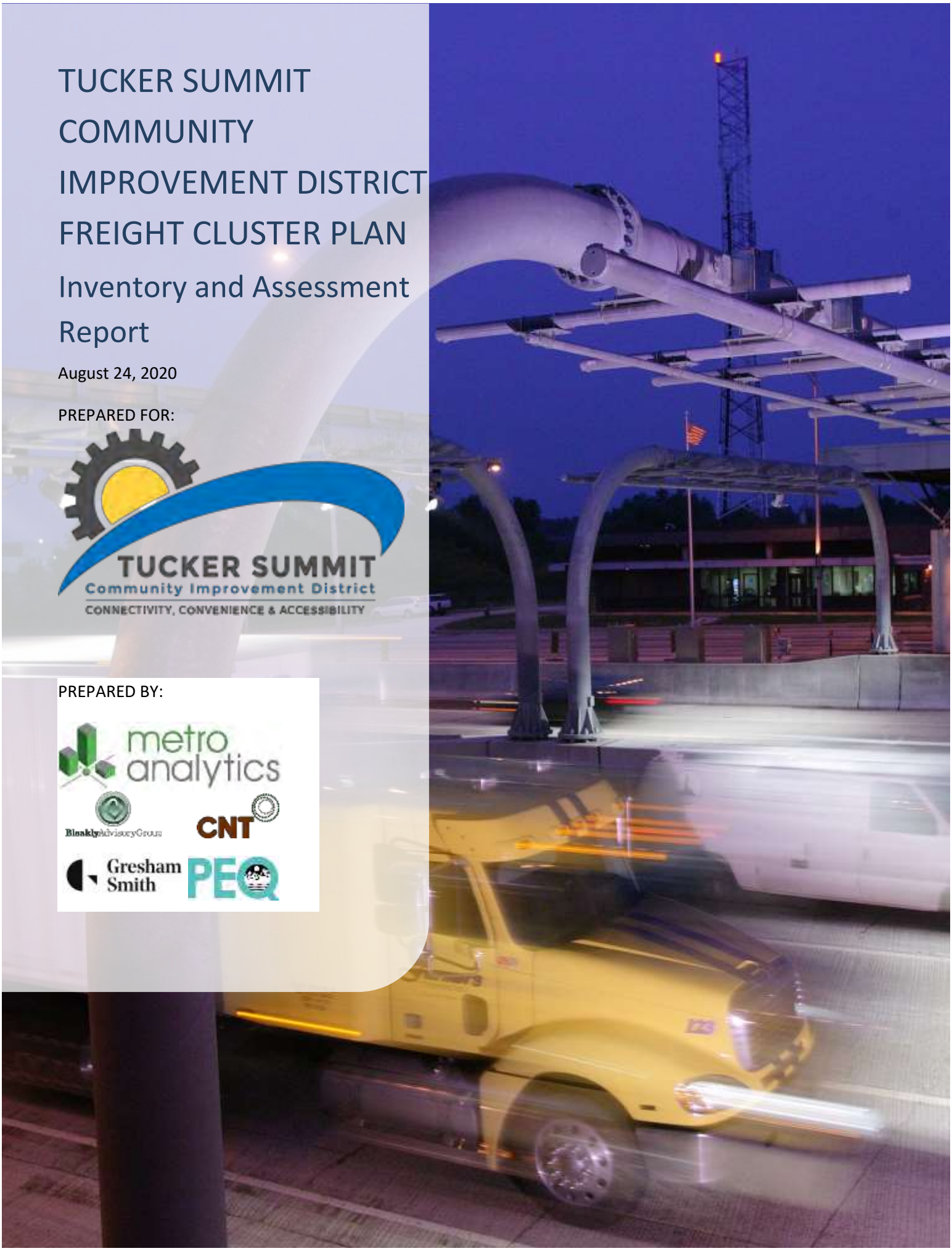

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1 Overview of Report

1.1 Purpose of Report

The purpose of the Inventory and Assessment Report is to provide a detailed inventory of existing conditions and an assessment of current and future needs for the Tucker Summit Community Improvement District (TSCID). The overall intent of the report is to provide the information necessary to begin to develop recommendations for transportation improvements and land use and development policies that will help improve freight mobility and foster an environment for prosperous industrial development.

1.2 Organization of Report

As such, the remainder of this report is organized as follows:

- Chapter 2 – A review of previously completed plans that are relevant to the study area, including those from other agencies such as the Georgia Department of Transportation (GDOT), the Atlanta Regional Commission (ARC), DeKalb County, and the City of Tucker. Collectively, these documents provide a policy background from which to conduct the study.
- Chapter 3 – An overview of the existing transportation network, land use and development patterns, and other characteristics that influence freight traffic and economic development. This includes an inventory of existing land uses, workforce characteristics, roadway network, travel characteristics and transit services.
- Chapter 4 – An assessment of future projected conditions based on the ARC's regional travel demand model and the programmed and planned improvements throughout the County that will influence future travel.
- Chapter 5 – A safety and crash analysis utilizing crash data retrieved from GDOT's Georgia Electronic Accident Reporting System (GEARS).
- Chapter 6 – Existing multimodal infrastructure and opportunities for improvement to serve freight and workforce in the TSCID study area.
- Chapter 7 – Existing real estate and economic conditions that characterize the TSCID and surroundings.
- Chapter 8 – Major findings and implications including needs and opportunities for land use, transportation, and other factors.

2 Review of Previous and Current Studies

This review of studies provides a snapshot of characteristics and planning for the TCSID study area. While plans may have changed or altered, it is important to recognize efforts which impact the TCSID.

2.1 Local/County Studies

2.1.1 City of Tucker Comprehensive Plan - Tucker Tomorrow

In April 2018, the City of Tucker completed its Comprehensive Plan, 'Tucker Tomorrow,' and focuses on the City of Tucker. The scope of the study focuses on three sub-areas: Northlake, Downtown Tucker, and the Mountain Industrial Corridor, as well as the Lavista Road and Lawrenceville Highway corridors that link them. The plan describes how changing retail trends meant that the Northlake Mall failed to recover from the great recession. It describes Downtown Tucker as having an existing pre-automotive business district that the city would like to bolster. It also describes how the Mountain Industrial Corridor has aging and functionally obsolete industrial buildings. The Lavista Road and Lawrenceville Highway corridors are lined with a mix of auto-oriented commercial (depreciated strip commercial) with numerous curb-cuts, aging motels serving as residential uses, and residential homes converted to commercial uses. Much of 'Tucker Tomorrow' focuses on improving the characteristics of these roads within different segments of the city. The plan envisions replacing these areas with mixed-use development and multi-story residential, while developing a core of mixed-use facilities within and adjacent to Downtown Tucker. This would include a civic and cultural center with a town hall and adjacent new surface parking. The plan envisions creating a 'pedestrian pocket' or simple cluster of retail space and offices near the transit system by removing under-used turn lanes on Lavista Road and Lawrenceville Highway.

The plan also envisions the creation of a trail network of multi-use paths (separated from cars) linking the park system, downtown Tucker, and other important locations within the city. Existing single-family neighborhoods are viewed as vulnerable to edge encroachment by taller multi-family structures, to 'mansionification' (where a much larger single-family home replaces a smaller one) and re-subdivision (where multiple low density lots are combined as the basis for a new high-density subdivision).

Mountain Industrial Boulevard is recognized as an important source of both tax revenue and employment, and further business development efforts are being looked at to leverage its strategic location. The development strategy emphasized the recruitment of bio-medical firms, zoning changes to improve aesthetic appeal, and the addition of bike lanes. The preservation of industrial land uses along Hugh Howell Road is claimed as essential, however the only policy suggested is a zoning amendment to prevent the emergence of more undesirable strip retail along the corridor.

The major findings of the review of 'Tucker Tomorrow' suggests a recognition of the economic importance of the Mountain Industrial Corridor without a commensurate effort to respond to that importance. This study is relevant to the TSCID because the changes envisioned on the access corridors to and from I-285 may or may not be compatible with truck movement through downtown Tucker, and access to and from the Mountain Industrial Corridor.

2.1.2 Tucker Tomorrow Strategic Transportation Master Plan

In September 2019, the City of Tucker completed its Strategic Transportation Master Plan as a component of its overall comprehensive planning effort. The plan includes the City of Tucker and the surrounding areas, and covers existing conditions, community input, and visions/objectives. It provides recommendations by mode and by objective, and covers costs/funding, future areas of study, and implementation.

The plan establishes the functional classifications of roadways[1] change within the study area and delineates the Lawrenceville Highway and Mountain Industrial Boulevard as major arterials, and Lavista Road, Hugh Howell Road and Ponce de Leon Avenue as minor arterials. Lawrenceville Highway and Mountain Industrial Boulevard are highly travelled 4-5 lane roadways. Mountain Industrial Boulevard is highly signalized, with 12 signals on a 3.5-mile corridor.

The plan notes seven bus routes serving the City of Tucker. MARTA and DeKalb County are exploring the feasibility of creating a 'Mobility Hub' (transit center) near Lawrenceville Highway and Main Street. GDOT has plans to create 'Express-Toll' Lanes along I-285 and a connection to the Northlake District, and a similar study is being conducted on US 78. The plan suggests a comprehensive corridor study of Mountain Industrial Boulevard/Jimmy Carter Boulevard by TSCID and Gwinnett County, and a managed-lane project on US 78 west of its intersection with Mountain Industrial Boulevard.

The objectives for the plan were to provide connectivity, improve walking/biking conditions, enhance travel systems, and manage a multi-modal system to reduce traffic congestion. Projects were recommended to bolster the pedestrian experience, but also enhance traffic flow.

Recommended projects from the plan include widening Mountain Industrial Boulevard to six lanes with a barrier median (Hugh Howell Road to US 78) and upgrading the US 78 Interchange, expanding the Mountain Industrial Boulevard and Hugh Howell Road intersection, and expanding the Jimmy Carter Boulevard and US 29 intersection. Completion of the sidewalk network along Mountain Industrial Boulevard is also recommended.

Multimodal recommendations included adopting a 'Complete Streets' policy, coordinating with MARTA on express bus service to the Doraville station, and with GDOT on express bus/managed lanes. Safety recommendations included implementing the 2018 Intersection Safety Analysis. Access management recommendations included driveway consolidation on Lawrenceville Highway and Lavista Road. Public participation efforts ranked widening Mountain Industrial Boulevard as their number one priority.

The major findings of the review of this plan are the planned widening of and median barrier installation along Mountain Industrial Boulevard, as well as intersection and interchange improvements with cross-

[1] Functional Classification is "the process by which streets and highways are grouped into classes, or systems, according to the character of service they are intended to provide." Types include Interstate, Arterial, Collector, and Local. GDOT, *Statewide Functional Classification & Urban Area Boundary Update Guide*, 2014.

streets. This is relevant to TSCID as this suggests a re-orientation of Mountain Industrial Boulevard away from street access for adjacent parcels and toward thru-street mobility.

2.1.3 DeKalb County 2014 Transportation Plan

In June 2014, DeKalb County completed its Comprehensive Transportation Plan. The plan consisted of two documents: an existing condition and needs document, and a transportation recommendations document and included several appendices and project fact sheets.

The Plan provided relevant background information about DeKalb County including its residents/employees, land uses/destinations, and a look at the real estate market. The Plan also summarizes key transportation modes and includes a system inventory, along with a determination of needs. The Plan also discusses other relevant information including policy and program highlights, human services transportation, current expansion plans, current and potential funding, and health/environmental. The scope is focused on DeKalb County, but travel patterns along regional corridors are also considered.

The population growth rate in DeKalb County is lower than the average in Metro Atlanta. In contrast, housing units increased at a higher rate, suggesting the mix in the county includes more small households. Key demographics showed DeKalb County is older, less educated, and generally has lower income than average for Metro Atlanta. The job-to-housing ratio suggests DeKalb County possesses a substantial employment base. The plan suggests the creation of 47 'Activity Centers' to reduce the need to drive and reduce sprawl and strip development. The County intends to update zoning to match planned future land use. The plan notes that Northlake, near Tucker, is planned to develop as high-density infill, while downtown Tucker moves toward civic uses. Undeveloped areas in the central east portion of DeKalb County are noted as being within or near the TSCID.

At the time of the plan, both Lavista Road and Lawrenceville Highway are delineated as major arterials, while GDOT currently designates Lavista Road as a minor arterial and Lawrenceville Highway as a principal arterial in DeKalb County. Bicycle crashes were common where E. Ponce De Leon Avenue meets Mountain Industrial Boulevard, which indicates significant gaps in pedestrian and cycling facilities in the area. Both CSX and Norfolk Southern (NS) have intermodal facilities in DeKalb County, but neither are near Tucker.

The 'Transportation Recommendations' section documents project visions and goals, plan inputs, public involvement, project selection and prioritization, and funding scenarios. The plan explicitly recognizes that funding for new infrastructure is declining implying a need to carefully manage transportation investments.

The plan includes discussion of freight and air travel, access management, complete streets policies, human services transportation, bicycle and pedestrian level of service, transportation demand management, transit and land use, and coordination with MARTA. The document ends with a five-year action plan and strategy for monitoring project implementation. In the transit section it is suggested that the TSCID consider funding shuttle routes to major employers in the region.

This study notes that the industrial market is rebounding, but only for large, modern spaces suitable for distribution. DeKalb County was characterized by high vacancy and lower rates per square foot. Industrial development is sensitive to land prices, and new development tends to locate in more peripheral locations, further out than residential. The industrial stock in the Mountain Industrial Boulevard area is noted as being older and somewhat obsolete.

Overall, this study takes place at too high a level in relation to TSCID and provides limited relevant detail about the area. It is, however, useful to compare conditions in the City of Tucker to the rest of DeKalb County.

2.1.4 DeKalb County Transit Master Plan

In August 2019, the DeKalb County Transit Master Plan was published. The study focused on DeKalb County, but included data for limited parts of adjacent counties. TSCID is adjacent to the Northlake CID and is a Livable Centers Study Area and is also identified as an 'Equitable Target Area'.

The plan provides an overview of existing transit within DeKalb County, and potential future transit (contingent on additional funding). Routes 75, 121 and 124 currently serve the Tucker Area. Tucker is noted as a job center in North-East DeKalb County that is 'marginally' served by public transit and identified as an area in need of improved pedestrian connectivity. Job growth forecasts suggests 75% of the share of 70,000 new jobs created in the next 20 years will be potentially reliant on transit. Potential improvements include upgrading service on Route 75. Tucker is identified as a possible location for 2-3 'Arterial Rapid Transit' buses with stations along Lavista Road, Lawrenceville Highway and Hairston Road.

Per information within the Plan, MARTA's bus service currently has a very poor on-time performance of 78%. A non-statistical survey suggested that 70% of people were unwilling to walk further than 10 minutes, and only 23% found 20-minute headways acceptable. Employment mapping suggests a high level of employment in the TSCID, but sparsely distributed. This combination of performance demand and employment geography make it difficult to provide effective transit service. The ARC Activity-Based Travel-Demand model does suggest that for the Tucker Area 'Travel-Shed,' downtown Atlanta is the top travel pair for the morning peak with 3,200 trips.

The plan documents the history of MARTA, including the expansion of its fixed guideway network. It notes that there have been no new MARTA stations in DeKalb County since 1996, which are now aging and require substantial investment to rehabilitate/maintain. The existing MARTA sales tax (1 cent) is limited to maintain State of Good Repair and delivering capital projects and cannot be used for system expansion. The plan calls for DeKalb County and cities within to better align land use policy with transit investment to promote walkability and transit usage near the stations. Both incentivize private development and enhance opportunities to secure FTA funds. In 2015, HB 170 increased the gas tax, making another billion dollars available annually to maintain and improve the highway systems statewide.

The plan reviews other plans by local districts and agencies (including CIDs). The TSCID (formerly Stone Mountain CID) is focused on creating an industrial district linked to central Atlanta by transit. The 'Tucker Tomorrow' plan presented a similar strategy, but also noted the importance of re-using underperforming commercial and industrial parcels in central Tucker, while improving multi-modal access.

In summary, while there is substantial analysis of fixed guideway transit in DeKalb County, none of it is near/within the TSCID. The only changes planned are upgraded bus service, 'ART,' with some Bus Rapid Transit (BRT) elements, and the establishment of a transit center nearby.

2.1.5 Stone Mountain Innovative Livable Centers Initiative (LCI) Study

In November 2012, the Stone Mountain CID (now TSCID) completed a Livable Centers Initiative Innovation Study Report - Infrastructure and Economic Development Plan. It documented an "aggressive plan to strengthen the TSCID area, an older light industrial area in DeKalb County and abutting southern Gwinnett County" by leveraging its location to overcome a declining context. The area required infrastructure and built environment upgrades and streamlined regulatory processes.

The purpose of the study was to "develop a strategic economic development plan to re-establish the area's strong industrial and freight presence in DeKalb County and the southeastern US." The planning process consisted of engaging area leaders, analysis of baseline conditions, a business environment survey, and public engagement, prior to developing the Infrastructure and Economic Development Plan. Inter-agency collaboration was a key element of the planning process. In 2012, the local economy had not recovered from the effects of the Great Recession on employment, which were more severe than average within the TSCID. The TSCID was host to a large share of the county's wholesale and manufacturing activity. Transportation and moving material account for about 13% of TSCID employment. A quarter of workers within the TSCID come from within the county while more commute from Gwinnett County. The TSCID was located within unincorporated DeKalb County (as of 2012) with zoning, development, building redevelopment, and licensing regulated by DeKalb County.

The study presented a planned development map and an envisioned zoning map, the "Innovation Plan Zoning Map." A tendency to defer rezoning decisions by DeKalb County has discouraged some local businesses and induced others to relocate. The lack of a process to expedite or champion economic development/job growth projects, the lack of any relationship with even long-standing businesses, and long wait times and excessive submittal requirements were felt to characterize the regulatory regime.

Traffic flows along US 78 and Mountain Industrial Boulevard (MIB) suggested that the latter is being used as an alternate to I-285. Current conditions suggested slow travel times and substantial queues at intersections, while traffic volumes were projected to increase by 30% by 2040. Volumes along MIB are characterized by a high percentage of trucks. While there are a substantial number of crashes along the Mountain Industrial Boulevard, the accident rate was relatively low. Turning radii at several intersections was only suitable for older, small trucks. The report notes that much of the industrial

building stock is 40 to 50 years old and designed by the standards of the day. More modern buildings have an increased footprint size for today's standard truck trailers which are longer than in the past. As a result, the typical industrial tenants require larger spaces than found in the study area.

The plan provides long-term strategic vision and an action plan to follow the adoption of the plan up until 2017. It recommended the TSCID fill the role vacated by DeKalb County as the 'front door' for small businesses and provide the capacity to network with available financial and social capital resources. The report suggests enabling small businesses to engage with local agencies and local trade association chapters. The report notes an absence of in-person 'business retention and expansion' to help alleviate burdens and barriers to competitiveness. The report provides a summary of actions to support this goal.

The report also suggests that DeKalb County set up a 'one-stop shop' for business development and fast-track permitting. For business attraction purposes, the report suggests leveraging the Georgia Office of Economic Development, and ensuring that relevant information about the TSCID is readily available. Analysis suggests, the brick warehouses of the TSCID are generally unsuitable for modern wholesale or warehousing activities but may be suitable for high-tech manufacturing or medical uses. The report notes that local employers often have difficulty filling positions from within the county labor pool. A partnership with the Georgie Piedmont Technical college could be a mechanism by which the County might engage in workforce development. The report also discusses the use of Tax Increment Financing and Opportunity Zones to promote development within the TSCID. The plan ends with a tabular action plan to implement the recommendations, the related party, and estimated cost.

Key ideas from the plan include that the TSCID contained aging buildings unsuitable for modern warehouse use and face difficulties in transitioning to other uses due to regulatory requirements. As Stone Mountain CID is the former name of the TSCID, the contents of this study are of immediate and continued relevance. The same agencies are likely still viable cooperative partners, while the incorporation of Tucker may provide a mechanism to enact new, economic development-oriented regulatory procedures.

2.1.6 Destination 2040: Gwinnett Comprehensive Transportation Plan

Gwinnett County's Comprehensive Transportation Plan "Destination 2040" was completed in 2017, with a 2040 horizon year, and a focus limited to Gwinnett County. The report contains an executive summary, existing conditions report, needs assessment and recommendations report. The needs assessment covers vision and goals, ranked CTP priorities, and quantitative and qualitative methods for assessing needs, which are assessed by mode. The plan follows a 'predict and provide' paradigm, comparing the existing transportation system to future transportation needs, forecasting based on past growth, and then prioritizing the projects best meeting goal-based metrics. Goals include connectivity (accessibility), economic vitality, quality of life, safety, mobility, and stewardship. The plan also sets a goal of embracing new transportation opportunities. Project priority weighting is derived from a large weighted sample to determine priority rankings for projects; vehicular travel and connectivity were noted as the most important. Projects were ranked using a deprivation index (socio-economic status/disadvantaged

population served variables), an Economic Development Asset Index (job creation), Existing Transportation Data (traffic counts and crash data), and outputs from the ARC travel demand model.

Road projects forecast to experience substantial delay were highlighted, as were intersection bottlenecks. US 78 from Gwinnett County to downtown Atlanta is noted to be facing capacity constraints. Losses in accessibility due to congestion were mapped for select locations (Mall of Georgia, Gwinnett Place) as a demonstration of the 2040 congestion effect. Western Gwinnett County was forecast to suffer substantial impairment to the 'Travel Time Index' (peak hour to free flow travel time ratio). The needs assessment also notes that: "two regional freight intensive clusters in Gwinnett County were identified as part of the ARC Freight Mobility Plan Update: I-85/Peachtree Industrial Boulevard/Jimmy Carter Boulevard, which extends into DeKalb County, and Gwinnett/Satellite Boulevard/SR 316." The TSCID falls within the I-85/Peachtree Industrial Boulevard/Jimmy Carter Boulevard freight cluster.

Parts of the county are expected to see substantial increases in freight employment. Tabular representations of both high truck volume corridors and high share volume corridors were presented. These corridors included Jimmy Carter Boulevard (which turns into Mountain industrial Boulevard), I-85 and US 78. The impact of at-grade railroad crossings on heavy truck delay was mapped to identify potential locations for grade separation. Public feedback regarding specific intersections or locations was collected and mapped. Most comments were oriented toward congestion, safety, and access management.

Transit demand was assessed by activity density (jobs and population), low incomes and minority status. Analysis of existing bus routes suggests they are slow and unreliable and require multiple transfers. Despite this, there are districts with substantial transit trip shares, double and triple the regional averages. Origin-Destination pairs characterized by similar or superior transit travel times tended to be heavily used. A fifth of transit trips connected to the Doraville MARTA station. A survey suggested that high capacity transit with dedicated space was the most desired improvement for 32% of the population, while 24% sought to improve transit for people with mobility challenges. The public engagement process and comments received are also documented.

Origin-destinations surveys suggested that downtown Atlanta was the primary draw for Gwinnett County commuters, while Technology Park and Gwinnett Place were the primary destinations within Gwinnett County.

The recommendations section of the planning document was completed in December 2017, and its scope covered vision, goals, and priorities for the planning, project development, and evaluation, assessing existing and potential funding sources, and then tiering of projects to achieve a financially constrained plan. The report also made policy recommendations for transportation and land use, road classification, asset management, freight, transit, connected and autonomous vehicles, active transportation, travel demand management, and safety. The report then provides a list of major regional priority projects. A five-year action plan for implementation follows, including a strategy for monitoring implementation.

The significant findings of this study are the project and policy recommendations made within Gwinnett County. Notable recommendations include the return of traditional street grids for new subdivisions, encouraging complete streets, proactively engaging in access management, fostering compact mixed-use development, increasing density in activity centers, and enacting transit supporting overlay districts. The plan also reiterated recommendations from the Freight Mobility Plan Update and the Atlanta Regional Truck Parking Assessment Study.

The relevance of this study to the TSCID is that Gwinnett County is an effective competitor to redevelopment and re-investment in the TSCID. Land is cheaper, congestion is less, warehouse stock is new, the regulatory regime is more growth oriented, and it sits on the same freight corridor (I-85). The report otherwise makes no mention of Tucker or the TSCID. Only one project improvement, an improved interchange of Jimmy Carter Boulevard with I-85, would be relevant to the TSCID and suggests coordination with the other half of the freight cluster on the Gwinnett County side of the county line. Gwinnett County also plans to provide sidewalks along Jimmy Carter Boulevard.

2.1.7 Connect Gwinnett: Transit Plan

Prepared for Gwinnett County in 2017 and made available in July 2018. The report includes:

> *"an illustrative 30+-year system plan, phasing implementation plan, patronage estimates, and financing plan for Gwinnett County Transit Service. The system plan describes general physical aspects, such as routes, service plans, and necessary acquisitions for bus service. The implementation plan is broken into 5 and 10-year increments based on the Fiscal Year (FY) schedule of regional agencies."*

The report inspects existing conditions, considers existing needs, articulates a regional vision, and plans to achieve the first few phases of that vision, as well as strategies to achieve later phases. After establishing purpose and scope, the plan reviews existing and proposed transit service modes, including paratransit and vanpool, and then moves on to 'other system component,' namely vehicles, transit hubs, park and ride lots, local bus stops, and walk access. The study then covers transit supportive policies: land use, multi-modal connectivity, fare policy, and human services transit. The study then reviews the existing transit system and then presents a short and long-range implementation plan, focusing on changes made to different routes by transit system type (local, express, flex, etc.) to a 2048 horizon year. Ridership estimates were developed using the FTA STOPS model. The study then presents a 'Costs and Financing Plan,' including costs, possible/likely sources of funds, and financing options. The study closes by noting the importance of coordination with local, County, State, and Federal governments, as well as regional agencies and CIDs.

The significant finding of the study is the emergence of a new regional transit agency, the Atlanta Transit Link (ATL), which will serve as a governing board for transit throughout the region. Just how ATL will influence the operational responsibilities of agencies such as MARTA and GCT is yet to be determined. The ATL establishing legislation enables counties to tax themselves to provide additional funds for

transit, without needing to participate in funding the MARTA heavy rail network. This is anticipated to generate additional support and additional revenue for transit outside the City of Atlanta.

The Connect Gwinnett transit plan is largely of peripheral relevance to Tucker, with a few notable exceptions. The ARC Long-Range Transportation Plan calls for extending the MARTA heavy rail system from Doraville into western Gwinnett County, with a station proximate to the intersection of Jimmy Carter Boulevard and I-85, and a 'Direct Connect' high frequency shuttle service connecting the heavy rail station to remote park and ride lots. The planned MARTA heavy rail stop in Gwinnett County is just a few miles north of the TSCID, making it a feasible connection for bus service. Additional transit service noted include a semi-rapid bus service or form of Arterial Rapid Transit following Lawrenceville Highway, and would likely connect with the planned 'Mobility Center' in Tucker.

2.2 ARC and Statewide Plans

2.2.1 Regional Transportation Plan

The Regional Transportation Plan (RTP) is the transportation component of the Atlanta Region's Plan develop by ARC. The RTP is the 2019 Federally required update, which is developed in coordination with GDOT and the state-required Statewide Strategic Transportation Plan (SSTP). The geographic scope of the plan is the 20-county Greater Atlanta region. The plan covers a minimum 20-year planning horizon, which would be the year 2040. Topically, the plan covers the Federally required planning factors as well as the transportation investment plan with specific investment strategies identified to advance economic growth in the state for the SSTP.

The document provides an introduction, produces trends, documents the process of plan production, presents the results of the plan ('solutions'), discusses financing for the planning solutions, and compares current and forecast conditions with and without the projects and policies in the plan. Following the 190-page document, approximately 900 pages of appendices are presented, of which approximately 600 pages are projects/policies with associated funding sources. The rest consisted of a detailed project evaluation methodology and process (Appendices H & M), performance measures (Appendix I), equity analysis (Appendix J), community engagement protocols and outputs (Appendix K), the unconstrained project list (Appendix L), and resolution adopting the plan (Appendix N).

The ARC interacts with regional planning through both the Livable Centers Initiative (LCI) and the Comprehensive Transportation Plans (CTP). The former provides planning and funding resources for special sub-areas, while the latter is a voluntary program for local jurisdictions with adopted compliant plans to obtain project funding from the ARC for projects within those plans. Modal planning, specific to different modes, was not part of the document. However, the plan was built using inputs from many modal plans.

The existing conditions section notes the unsustainable development pattern. There is too much traffic on two-lane rural highways, regional freeways are overwhelmed and expanding capacity prohibitively expensive. Transit coverage is limited, active transport networks are fragmented, and maintenance

backlog for projects built since 1950 is coming due. For all groups, last mile connections, including lack of sidewalks, are a problem. Maintenance backlogs in pavement, signals, sidewalks, and storm drains characterize some parts of the region. Less affluent regions within the Atlanta Region lack resources to fix this. The region has transit access to less than half of major activity centers, and suffered a major drop in ridership, following recession induced service cuts. Solutions proposed include more funding, alternate financing, and public private partnerships.

The major findings of the 2019 update of the ARC 2040 plan were as follows: a total cost of $3.6 billion in year of expenditure dollars; vision projects beyond the horizon year represent an additional $10 billion in projects; 18 reconstructed freeway interchanges and 13 new ones; 1,035 new lane miles of arterial roadway; the addition of 100 miles of express lanes to the existing 108 mile network, with a vision network of 276 miles; 93 additional miles of rail and bus rapid transit to the existing 50 mile network; 400 mile unified network of paved paths for active transport envisioned but not planned; ongoing $500 million commitment to Livable Centers Initiative; growing number of trips despite growing amount of congestion; air quality conformity for PM2.5 maintained, but many counties not compliant with 2018 ozone standard.

This document is relevant to the TSCID because its boundaries falls within the ARC boundary. However, there are no references to Tucker or the TSCID within the document, and project mapping shows no planned improvements in the area. However, both I-85 and I-285 have been designated to receive express lanes, and the interchanges of I-85 and I-20 with I-285 have planned upgrades.

Policy goals include supporting the reliable movement of freight and goods. The objectives include focusing roadway capacity expansions on priority freight corridors, improving network reliability through managed lanes, and intermodal freight objectives such as upgrading short lines and last-mile access to intermodal centers.

2.2.2 Regional Freight Mobility Plan

Adopted in May 2016 by the Atlanta Regional Commission, this document is an update to the previous Freight Mobility Plan. The document consists of 8 sections and two appendices. The sections are: introduction; vision goals and objectives; freight system review; assessment of regional plans; assessment of performance measures; project prioritization; strategies and initiatives, and funding.

The introduction covers the prior (2008) Freight mobility plan. The purpose of the current document was to update existing conditions and forecasts, update the plan with federal, state, and regional policies, support the development of a FAST Act compliant RTP, identify significant projects and define a path toward implementation. The vision section identifies Atlanta's role as "the most significant freight center in the South" because of its direct linkage to the port of Savanah. It also notes it's overarching goals as creating a competitive economy, providing a world class infrastructure, and providing healthy, livable communities. One of the objectives for 'Healthy, Livable

Communities' was to "Facilitate the redevelopment of outmoded industrial areas to attract modern facilities and accessible, sustainable jobs."

The document articulates the critical role of freight in the Atlanta economy, thanks to its strategic location linking to the Port of Savannah and its role as a major hub in many supply chains. Metro Atlanta is consequently also a major manufacturing hub. In addition, the wholesale, construction, retail and transportation/warehousing sectors of the regional economy are dependent on freight, more than three-quarters of which is by truck. In addition to three interstate highways and two major railroads, the region has the busiest passenger airport in the United States. CSX and NS (class-1 railroads) maintain intermodal facilities both within and beyond I-285. Henry County, located southeast of Atlanta sits within a single driving shift (11 hours/220 miles) of the Port of Savannah, which is driving industrial and freight development in the area.

The existing conditions section noted that one percent of cargo tonnage was by air, 17% by rail, and the rest by truck. A substantial portion of truck movements was drayage – pickup or delivery to a seaport, inland port, airport, or intermodal terminal as part of a larger freight movement.

The majority (67%) of rail freight flows are inbound, suggesting either local consumption or truck distribution. A large proportion of truck freight consisted of dense, heavy materials disproportionately likely to contribute to roadway deterioration. I-85 and the northern part of I-285 were noted as having significant truck AADT.

Freight activity within the Atlanta region is projected to grow along with manufacturing, warehousing and distribution activities, with a 76% growth in tonnage moved in the region from 2013 to 2040. There are no intermodal yards on the eastern half of the Atlanta region, however, CSXT Hulsey, which recently ceased intermodal operations, in central Atlanta is the east-most. The document identifies the top at-grade crossing by rail volumes and provides truck volumes at those crossings.

The assessment section covers both regional plans and freight trends. Important freight trends noted include growth at HJAIA, the widening of the Panama Canal, growth in the Port of Savannah, and near-shoring of production in Mexico. Other trends noted the emergence of e-commerce fulfillments centers, and new domestic oil and gas production. There is an emerging class of 'direct fulfillment centers,' consisting of large, well-stocked warehouses intended to meet the demand for next-day delivery. According to the document: "the impact of these changes on the Atlanta Region's freight infrastructure is likely to be larger and more numerous freight clusters, increased importance of freight system reliability, and more frequent local truck trips in smaller trucks," The document also notes that "Robotics, optics and other material handling technology are reducing the traditional reliance on forklifts, causing warehouse aisles to narrow and ceilings to rise," resulting in higher density warehousing, and reducing demand for additional square footage.

Notable studies summarized included the 2010 'ARC Atlanta Strategic Truck Route Master Plan (ASTRoMaP),' focused on facilitating cross-town truck movements by evaluating roadway geometry along the grid network linking economic sectors through-out the region. Another notable study, 'Cargo Atlanta: A Citywide Freight Study' (2015), focused on facilitating freight movement within Atlanta,

suggested identifying truck routes, widening roadways and adding intersection capacity, and developing a truck bypass around the city of Atlanta.

The 'South Fulton Comprehensive Transportation Plan' (2013) was a multi-jurisdictional multi-modal study which had a large emphasis on how to improve freight mobility in the area due to significant industrial development. Recommendations focused on preserving the area as industrial and understanding the impacts of how plans to increase operations at the intermodal yard affected truck traffic operations in the area. The 'Fulton Industrial Boulevard LCI/Master Plan' (2013) recommended the incorporation of the plan into the Fulton County Comprehensive Plan, creation of a zoning overlay district, and a tax-allocation district to support the redevelopment of an interchange. Infrastructure oriented improvements included targeted intersection improvements to medians, turning radii, and traffic signal timing.

This document, while topically relevant to the TSCID, does not contain a specific reference to Tucker or the TSCID. Other CIDs were interviewed as a part of the process, and their inputs may be representative of the TSCID. South Fulton and Boulevard are noted as CIDs that have raised funds for freight purposes. The report notes that the changing character of warehousing space will likely lead to the redevelopment of old sites to meet new criteria, 5-7 years out. The document notes that: “the implications are that close-in districts will become viable for upgrade and growth, and that new demand on existing roadways could expand greatly.”

2.2.3 Atlanta Regional Truck Parking Assessment Study

This 2018 study was conducted by the Atlanta Regional Commission (ARC). The geographic scope consisted of the 20-county Atlanta region, and the topical scope was focused on the implementation of a recommendation from the 2016 Atlanta Regional Freight Mobility Plan to evaluate truck parking in depth greater than the freight plan could accommodate. The report follows a format with other area planning documents, consisting of the following sections: introduction; public engagement; goals/objectives; existing conditions/needs assessment; and recommendations. Outreach consisted of ARC Freight Advisory Task Force meetings, ARC Transportation Coordinating Committee Meetings, online stake-holder surveys and mapping exercises, and stakeholder interviews.

Input from the Freight Advisory Committee suggested providing "alternatives that help minimize the need for trucks to park along highway interchange ramps and roadway shoulders.” The ARC Transportation Coordinating Committee noted the need to integrate truck parking with local land use plans, and that regional requirements (similar to stormwater regulations) may be needed.

Survey data suggested that local planners did not have an active role in facilitating truck parking, and that some local ordinances were very restrictive of truck parking. Some felt that parking trucks presented a nuisance, with truckers illegally making use of private parking lots. Trucking respondents to the survey presented bathrooms, fueling services, restaurants, and showers as the most important

amenities for truck parking. A survey of truckers reported restrooms, restaurants, vending machines and showers as most important.

Hours of service limits and associated mandatory 10-hour breaks were felt to increase the need for truck parking; 68% of truckers are required to find their own parking; only 19% of drivers felt that the Atlanta region had adequate parking. The mapping activity showed locations of illegal truck parking, stratified by type (highway ramp, side of road, vacant lot, illegal use of parking lot, or other). Near DeKalb County, both side of road and highway ramp were noted as daily to every other day occurrence. A survey of drivers indicated that for 40% of drivers, locating parking took 30-60 minutes, and another 51% suggested it required over an hour. Most drivers simply continued driving until a safe location was found; only half made use of information technology to find a spot. Recommendations from interviews varied by audience: Drivers felt more parking in urban areas was required, including parking at distribution centers, 'micro' truck stops, and more rest area parking spaces. Delivery centers suggested providing waiting areas for delivery staging; truck stop owners felt educating local communities about the need to be important; law enforcement felt advance route planning/parking location to be necessary. Other recommendations included the need for real-time signage about available parking, educating communities about the need for truck parking near industrial sites, and that the problems were dominant within 'ring' counties rather than urban counties. The mandated advent of Electronic Logging Devices (ELD), in combination with 11-hour driving limits implies that drivers will be required to pull over and park regardless of location/context, worsening existing unsafe parking along roads or on highway ramps.

From drivers, there is a general demand for new truck stops, but truck stop owners note community hostility to new facilities or expansion of existing truck stops. The lack of truck parking/staging areas near industrial properties result in parking/queuing on the streets was also noted.

The major finding of this report is that truck parking has long been insufficient, wasting drivers time, inducing unsafe driving, and generating unsafe parking and queuing behavior by drivers. With increased enforcement of hours of service, these problems are expected to worsen. Recommendations are generally to provide additional parking, but also to improve communication regarding the existence and availability of existing parking.

This study is highly relevant to the TSCID, as the area is identified as a significant location of unsafe parking behavior. Improving the efficiency of trucking to the TSCID relies on having nearby truck parking available for staging to support the freight needs of the TSCID’s industrial/manufacturing activities.

2.2.4 Strategic Regional Thoroughfare Plan

The 2010 plan was developed by the ARC in cooperation with the GDOT.

Planning for the Strategic Regional Thoroughfare Plan (SRTP) began in 2010, with a 2040 horizon year. Geographically, the scope is on roadways important to both the Atlanta region and the state of Georgia, covering an 18-county metropolitan area. Topically, the SRTP was intended to address the piecemeal and ad-hoc nature of the roadway network in Atlanta with regard to their use as highways, transit routes, and truck routes. The plan consists of two documents: A data compilation report and a design guidelines report. The data compilation report is organized into seven sections: the purpose; overview of data; data catalogue framework; data sources; identification of data gaps; summary of additional future data needed; and an implementation/next steps section.

The first section identifies the purpose of the data report as identifying and documenting data resources applicable for objectively identify a 'Regional Thoroughfare Network' (RTN) as an important element of the 'Regional Strategic Transportation System' (RSTS). The RTN is defined as multi-modal, managed by appropriate traffic control strategies and suitable land development guidelines to maintain efficiency, reliability, and safety for all users, and as a priority for infrastructure investment in the region. The data compilation report was intended to classify the network, evaluate performance and suggest improvements, to develop a hierarchical arterial network. To that end, the comprehensive data catalogue developed by the project is intended to assess future needs, establish performance targets, and prioritize project implementation.

The data catalogue established was anticipated to help with evacuation planning, freight planning, bicycle/pedestrian planning, regional access management, transit planning, and regional transportation planning. Existing data was compiled from ARC, GDOT, Georgia Regional Transportation Authority (GRTA), and Metropolitan Atlanta Rapid Transit Authority (MARTA). Input from the ARC travel demand model was used to supply functional classes, pending additional data collection.

The report covers the development of a data schema, based on a review of other schemas, and provides documentation of meta-data. The report documents the quality of existing data, including the availability of specific attributes, such as sidewalk data. Quality categories were assigned to describe both the quality and comprehensiveness of different attributes. Excepting traffic count link data, road quality characteristics data was lacking/non-uniform across the study area.

The SRTP project included five case studies of specific localities, to 'zoom-in' and provide richer detail on a limited number of locations, providing micro-level analysis such as turning counts. Data from development applications, including Developments of Regional Impact analysis, were an important source of micro-data.

GRTA was responsible for managing and monitoring the performance metrics within the study area within an annual Metropolitan Atlanta Performance Report. Section 6, on additional data needs, noted that while vast amounts of data were available, substantial limitations existed. Not all data was available

in a spatial (GIS) format; fully 1/3 of data sets were non-spatial, including potentially valuable datasets. Operational data on volumes, traffic counts, and travel time runs were not available in GIS. The study recommended the creation of a regional data clearinghouse to standardize the collection and storage of datasets.

The remaining two-thirds of the Data Compilation Report consists of appendices documenting the data catalog, STRP maps, GDOT data, and existing and forecast corridor travel times. The Design Guidelines report had four sections: organization and application of the guidelines; design parameters and definitions; elements of design, and coordination with context and community. The first section discussed defining the RTN, articulated a problem statement, reviewed the purpose and applicability of the guidelines, introduced the TRN classifications, revealed the role of the unified growth policy map, reviewed the product development process and discussed the local development review process.

The SRTP was intended to identify roadways critical in providing regional mobility by connecting major activity centers, and to develop policy guidelines to maximize functionality from both a land-use and transportation perspective. Currently, many roads have limited success in balancing the mobility and access functions of the roadway to serve through or local trips. This also results in conflicts in the priority that different modes should be assigned.

The RTN is intended to provide a hierarchy of mobility-orientation of roadways in the context of the unified growth policy map, which provides the present and future land uses to evaluate the appropriateness of RTN classifications. RTN classifications were based on trip mix, land use connectivity, network connectivity, and multi-modal functions, with levels 1-3 assigning the relative intensity of each of the functions on a roadway.

Thoroughfares are to be multi-modal, with right of way allocation on specific streets determined by another process. The importance of a connected network to make travel by walking, transit, and biking was recognized, as well as the need for thoroughfare design to support human and economic activities, serving the adjacent context in terms of mobility, safety, access, and place-making functions. The plan recognized the importance of system-wide transportation capacity through network connectivity and multi-modal travel rather than simply increasing capacity on individual thoroughfares.

Maps of both the RTN and Unified Policy Growth Map (UPGM) are presented, and the classification of regional land area as urban, suburban, or rural explained and defined. The characteristics of an appropriate regional project development process and appropriate local development review process are detailed.

The second section on design parameters and definitions included guidance on choosing a cross-section design, and included sub-sections on transit, bicycle and freight corridors. Three design factors are noted as affecting cross-section design: bicycle and pedestrian presence, frequency of driveways, and the availability of secondary streets. The document provides a flow chart to support selection an appropriate cross-section, as well as the process to transition area roadway characteristics to match an appropriate cross-section (primarily through driveway consolidation). The second section also provides

guidance on mode specific planning (transit, cycling, and freight) through bulleted lists of design considerations and reference to other planning documents.

The bulk of the third section consisted of thoroughfare cross-section designed guidance for urban, suburban and rural thoroughfares and three different design levels. The section also reviewed compatibility with other design standards. Transit, bicycle, and freight all enjoy subsections with additional mode-specific design considerations. Design guidance is noted as being consistent with the AASHTO Greenbook and 'Design for Walkable Urban Thoroughfares'. It is specifically noted that arterial lane widths may vary from 10 to 12 ft, as appropriate to particular situations, such as when passing through urban areas, where the increased presence of pedestrian and cyclists make the lower speeds induced by narrower lanes a desirable outcome. The report references NCHRP reports 282 and 330 regarding urban arterial cross-sections.

The necessity of trade-offs between design conditions is explicitly recognized, but the report advocates that when decisions about trade-offs are made, a diverse group of professionals including urban design and transit planning all be included.

Design considerations for freight corridors include adequate travel lane widths, shoulder widths, posted speed limits, bridge conditions, limited exposure to residential areas, shallow horizontal and vertical curve, adequate turning radii and site distances, longer turn lanes, limited grades, and good wayfinding, among other recommendations, and recommends that truck priority routes be adjusted to meet these considerations. Regarding pedestrian endangerment caused by large curve radii, auxiliary spaces such as bike lanes and on-street parking are recommended to reduce crossing distance while maintaining large turning radii. The report also documents effective boulevard design for managing mobility/access trade-offs within a single corridor.

The fourth section includes details on supporting the local street network, implementing access management, and mitigating the impacts of large intersections/interchanges. The plan advocates for planning to ensure that a local street network of parallel routes develops, rather than concentration of all traffic on a single facility. Access management approaches and their applicability in different context are explained. The use of roundabouts is advocated to mitigate the effects of interchanges and large intersections.

The major finding of this study is the development of a framework to classify roadway facilities within the Atlanta region in such a way to facilitate the application of context specific design guidelines with mode specific guidance.

This study is relevant to the TSCID because it provides guidance on the design of freight and truck routes for different contexts. It also provides guidance on managing conflicts between modes (such as between bicycles and trucks).

2.2.5 Georgia Statewide Freight and Logistics Plan

The 2010 document was sponsored by the Georgia Department of Transportation (GDOT) Office of Planning. Nominally published for 2010, the document has been partially updated, and includes data from 2012, 2014 and 2017. The temporal scope was a 2050 horizon year and the geographic scope of the State of Georgia. Topically, the document is divided into five 'tasks': stakeholder outreach; a narrative on the strategic need for investing; modal profiles for air, marine, multi-modal and rail freight; economic evaluations and projections; and recommendations.

The first section documents outreach efforts to stakeholders: MPOs, the private sector, the general public, and the media undertaken as part of the effort to create a MAP-21 compliant freight plan. The section documents ongoing activity by the advisory committee as part of implementation, including ongoing outreach and coordination with MPOs. The majority of the section of the first task consists of an appendix documenting media articles relevant to the outreach efforts.

The second section is a narrative establishing the importance of freight transportation assets, including their importance for Georgia's economic competitiveness in both global and domestic trade. Economic impact analysis of reducing congestion and restoring freight-related sectors to historical market share are presented. The section concludes by relating freight transportation assets to performance measures.

The report claims that greater than average investment in transportation was the basis for higher than average economic growth in the following decades and blames subsequent reduction in growth on transportation underinvestment by benchmarking it against the US economy and other southern states.

Georgia has invested substantially in freeway capacity. $1.5 billion was spent on Atlanta area freeways between 1980-1990, almost tripling interstate lane miles. Other investments included connecting I-285 to I-85 and the construction of I-675 and I-575. Georgia did not add additional Interstate mileage after 1990 and has not added any new freeway or principle arterial mileage since 2000. In 2014, the Texas Transportation Institute's Urban mobility report suggested Atlanta was the most congested Southeastern city, with an average of 52 annual hours of delay per commuter. Further, freeway delay has increased more in Atlanta than in comparable large metro regions. This threatens accessibility for both commuters and freight-related companies.

Freight rail in Georgia includes carload, break-bulk and intermodal rail. Container-based intermodal rail provides connections between ports, railroads and trucks. There are several intermodal railyards in Atlanta. Trucks represent about 85% of the intermodal rail share in Atlanta.

Air Cargo is an important freight element in Georgia; most air cargo travels in the belly of passenger jets. Hence major passenger airports are also major freight airports. The air cargo strategy in this plan includes providing additional warehouse space to increase the ability to store air cargo. This strategy was also identified as a short-term priority by the latest update to the airport master plan and includes an additional 1 million square feet added by 2021. The catchment area for air cargo is typically about 8

hours of driving; hence the airport overlaps with (and competes with) New York, Chicago, Houston, and Miami airports for air cargo.

The expansion of the Panama Canal was expected to increase shipping to the Port of Savannah and thereby truck traffic to the Atlanta region. However, Savannah is competing with other east coast and gulf coast ports based on harbor depth. Its most direct competitor is Jacksonville.

The report details rail improvements affecting freight within the corridor, such as improvements to the Norfolk Southern 'Heartland Corridor' to enable double-stacked trains, and the 'Crescent Corridor,' a series of improvements along the corridor between New York and New Orleans. The Crescent Corridor improvements were forecast to significantly reduce trucks on I-85 and I-20 within Atlanta.

The third section provides modal freight profiles. The multi-modal summary provides relevant detail on trucking regarding truck flows and provides mode-specific freight forecasts. The third section also considers intermodal connectivity. The dominance of the truck mode is noted, but also the importance of the short, but highly productive rail linkage between Atlanta and Savannah as an alternative to I-75. Last-mile access roads are needed to connect Interstate Highways to intermodal facilities.

The fourth section covers economic evaluation and projections. It includes three growth alternatives, a sub-section on the importance of freight and logistics to the Georgia economy (including warehousing and agriculture/food processing) and subsections on mining, transportation equipment and timber.

The fifth section provides project recommendations. This includes mode specific improvements, broken down into sub-categories by road facility and context. Also included in the fifth section is a sub-section on project evaluation, again with a mode-specific breakdown by marine, rail, and highway projects. The 'packages' of projects developed is explained, following by an economic impact analysis of different packages. The section finishes with a summary of freight recommendations.

The major finding of this report was that transportation is a critical driver of the Georgia economy and that continued economic growth is dependent on (and contingent upon) continued transportation investment in multiple transportation modes. The report then identifies possible projects, evaluates their fitness, and provides a recommended list of projects most likely to generate monetizable benefits, and hence economic advantage. Specifically, continued investment in highway infrastructure along truck routes is necessary to maintain the existing catchment area for truck travel (and hence for air cargo).

This report is relevant to the TSCID through its analysis of truck freight traffic. It also helps explain the different types of rail yards – the rail yards within DeKalb County are bulk transfer facilities of dense commodity materials rather than container-based intermodal facilities. The report suggests improvements at the I-85/I-285 interchange near TSCID and ascribes a 9.18 benefit-cost ratio to it.

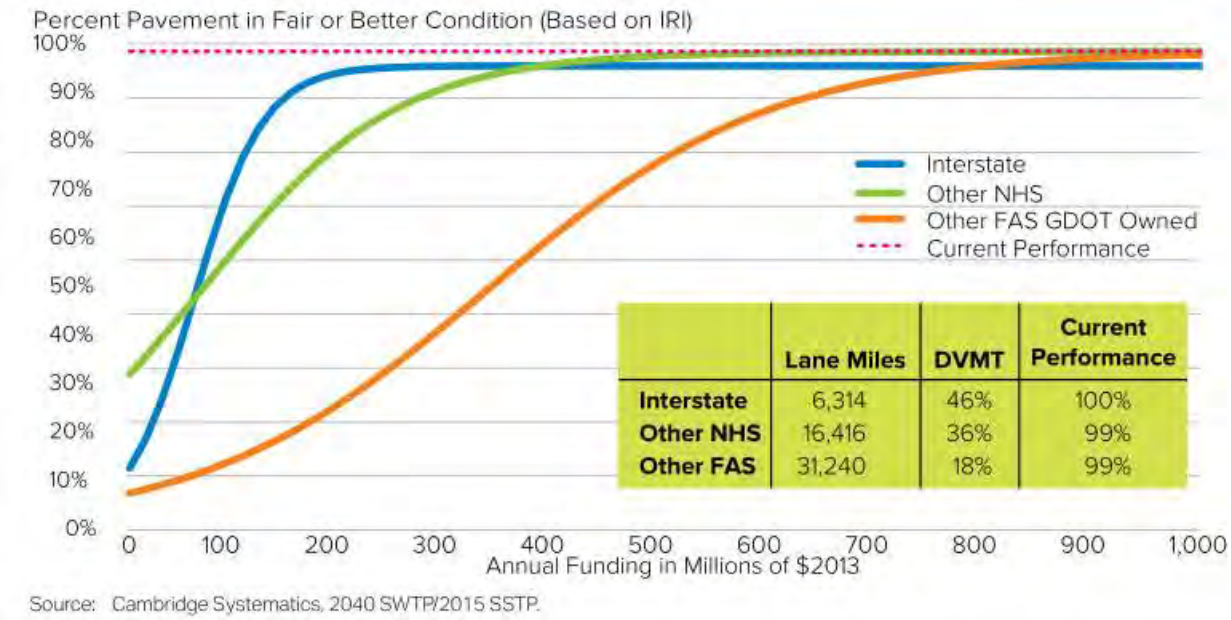
The report also notes that both the Norfolk Southern and CXST rail lines in the area already faced bottlenecks and capacity constraints. Capacity expansions along the I-85 corridor were modeled as substantially reducing delay (vehicle hours traveled) but substantially increasing vehicle miles traveled, with a benefit/cost ratio of 9.99.

2.2.6 2040 Statewide Transportation Plan / 2015 Statewide Strategic Transportation Plan

In 2016, the Georgia Department of Transportation (GDOT) presented an up-to-date or updated report, which combined Federally required Long-Range Transportation Plan (LRTP) with state-required Statewide Strategic Transportation Plan (SSTP) for the State of Georgia. The report updated the 2006 LRTP (2005-2035) to a 2040 horizon year (to comply with Federal Requirements) while making the 'business case' (to comply with state requirements). Topically, it covers existing infrastructure, demographics, and economics. It introduces a performance-based planning framework for MAP-21 mandated goals and performance measures, and SSTP goals focused on freight and logistics, and personal mobility both within and outside of the Atlanta area, noting that the SSTP goals are focused on economic growth. The report notes that GDOT owns most, but not all, of Federally aid-eligible roads, and then presents a 'needs' based assessment of five highway programs: pavement, bridges, roadway capacity, roadway operations, and safety, and discusses the use of a performance curve used to assess trade-offs for a financially constrained plan. How HERS-ST (Highway Economic Requirement System – State) will be used to estimate future pavement conditions at different annual funding levels is evaluated, and suggests the present $244 million annual funding would need to rise to $1.6 billion annually to maintain similar pavement condition, with $1.0 billion needed annually to meet MAP-21 requirements.

The analysis is then repeated for bridges, roadway, capacity, roadway operations, and safety, with each analysis suggesting substantially greater funding would be required. The report noted that increasing congestion would have severe impacts on freight trucking, which was itself projected to double in volume. The report notes that "given the importance of freight and the trucking industry to the Georgia economy, a strategic focus on improving roadway capacity and operations in and around freight hotspots is critical." A map (modified subset shown) delineates State Freight Corridors and freight rail yards.

Congestion impacts were modeled using the Georgia Statewide model and converted (using travel time values) to user benefit. The use of operational improvements (signal coordination, ramp metering) to maintain capacity is championed. The safety section notes the current GDOT emphasis on roadway infrastructure, while also noting that behavioral issues (distracted driving) dominate safety issues today. There are about 4844 miles of active freight rail in Georgia, of which about 640 miles is state-owned. The Class-1 railroads in Atlanta connect the region to external destinations in almost every direction; the primary intermodal (rail/truck) hubs are in Atlanta. Most rail freight is currently thru-traffic and is expected to continue to be so. While both tonnage and value of freight are expected to increase, the value of rail freight is expected to rise by a larger percentage (120%) than tonnage (64%). Freight rail investment needs are anticipated to include short-line modernization, bottleneck/crossing upgrades, and last-mile connection to freight facilities.



Source: Cambridge Systematics, 2040 SWTP/2015 SSTP.

While the first half of the report focuses on needs, the second half focuses on financial constraints, and noted that needs are outstripping current funding sources, and noting recent tax increases on motor fuels and heavy vehicles. Federal funding was anticipated to grow by 1% annually, and State funding in accordance with the 2015 Transportation Funding Act, generating $4.5 billion annually in 2040. Cumulatively over the plan horizon, there is a $21 billion gap between revenues ($65 billion) and needs ($86 billion). Performance implications of different scenarios were explored: funding needed to meet MAP-21 requirements vs. funding for SSTP-economic focused initiatives. The plan then compared the effects of current spending vs. alternate scenarios. A breakdown of the preferred scenario by highway program was presented—existing pavement was allocated 41% and roadway capacity another 25%. Suggestions included focusing investment on priority corridors (especially freight priority corridors) and potentially reducing the size of the existing Federal Aid Highway System, and the implementation of a 'managed lanes' system in Metro Atlanta.

Intermodal goals included increasing goods movement by rail by upgrading short lines, removing bottlenecks and improving grade crossings, and also to improve last-mile connections to intermodal facilities. Additional sales tax funding made available through Regional Transportation Referendums have generated substantial revenue and facilitated projects funded solely by state funds, mitigating the need to comply with federal regulations. The document then presents the aligned LRTP/SSTP goal and performance measure framework and relates it to project implementation. This is expected to aid project delivery and reduce both costs and time scale. A dashboard of performance measures is in the terminal graphic.

The major finding of the report was that existing funding (circa 2014) was not enough to maintain the then existing transportation system—additional funding would be needed for the 2015-2040 planning horizon. Additional funding made it possible to both maintain the existing system and to provide additional transportation-based benefits.

This report is relevant to the TSCID because of the focus on infrastructure investment and freight. The report notes that "given the importance of freight and the trucking industry to the Georgia economy, a strategic focus on improving roadway capacity and operations in and around freight hotspots is critical." Congestion is expected to grow, while at the same time truck freight volumes are anticipated to double. Unable to invest everywhere, the report suggests focusing investment on priority corridors (especially freight priority corridors). While Mountain Industrial Boulevard is not identified as a freight corridor in this plan, it is adjacent to I-285 and I-85, both of which are identified as strategic freight corridors. The report places special emphasis on inter-modal facilities. There will be a push to upgrade short-line railroads to facilitate goods movement, including last-mile connectivity to intermodal facilities.

3 Roadway and Bridge Characteristics

This section of the Inventory and Assessment will explore how vehicles, freight, bicyclists, and pedestrians utilize the existing transportation network in the TSCID area, and implications for freight traffic.

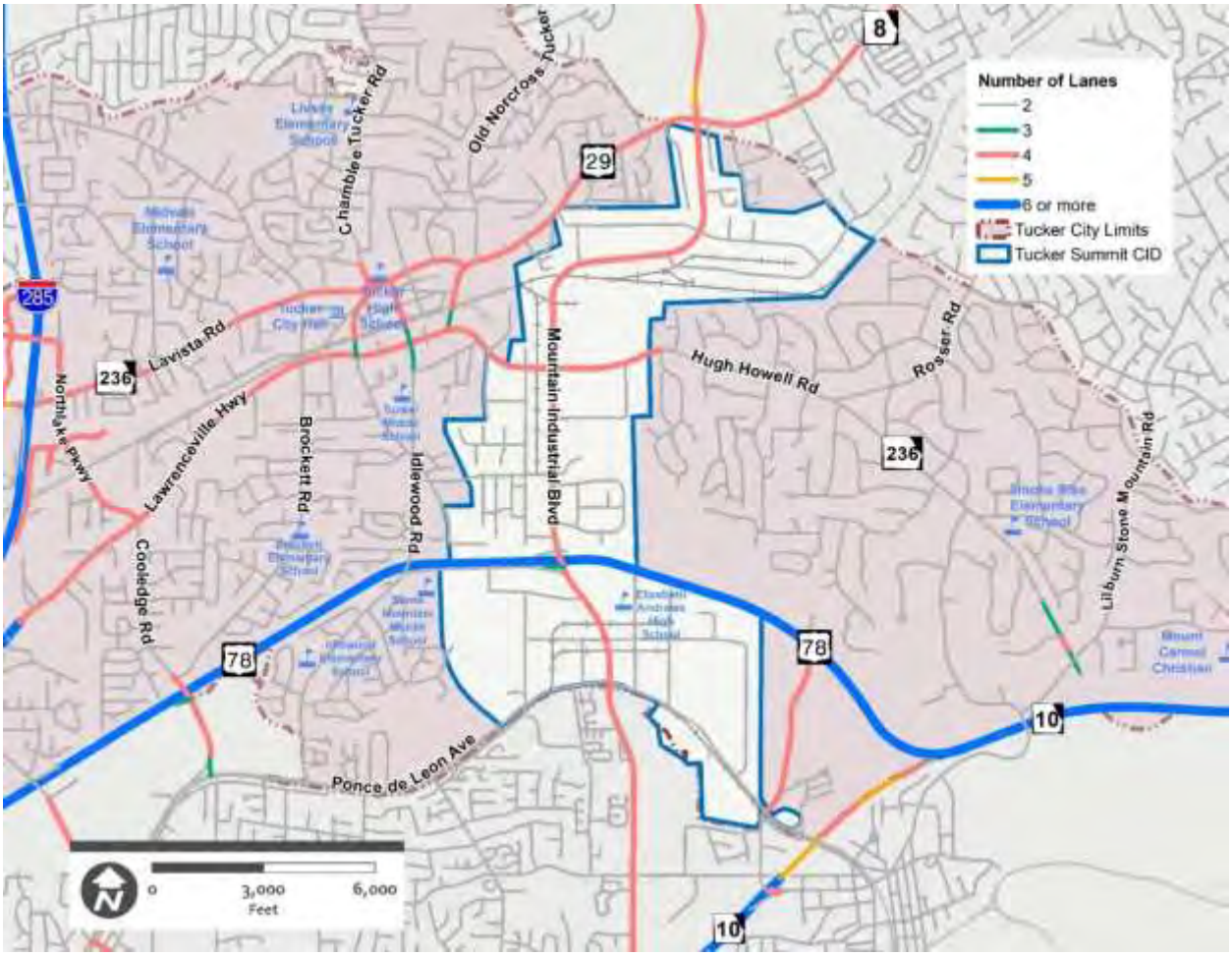
3.1 Roadway Profile

This section discusses the infrastructure and operational characteristics of TSCID roadways, and how the roadways function as a network to serve freight operations.

3.1.1 Number of Lanes

Figure 1 shows the lane coverage in the TSCID study area and its surroundings.

Figure 1: Number of Lanes



Source: Gresham Smith, GDOT[2]

While most roadways in the study area consist of two lanes, there are four-lane arterials that traverse TSCID, as well as an expressway with six or more lanes that provides access to the surrounding region.

[2] GDOT (2019). Road Inventory. Retrieved from http://www.dot.ga.gov/DriveSmart/Data/Documents/Road_Inventory_2018_Geodatabase.zip.

Mountain Industrial Boulevard, which serves as TSCID's primary north-south arterial, is five lanes wide (two travel lanes each direction with a center left-turn lane) along most of its length. Between the CSX Railroad bridge and Presidents Way, the corridor is a four-lane divided highway.

US 78 is a limited-access facility that crosses TSCID in the east-west direction and includes an interchange within the district. The roadway is six lanes wide (three travel lanes in each direction), with limited portions with seven or eight lanes.

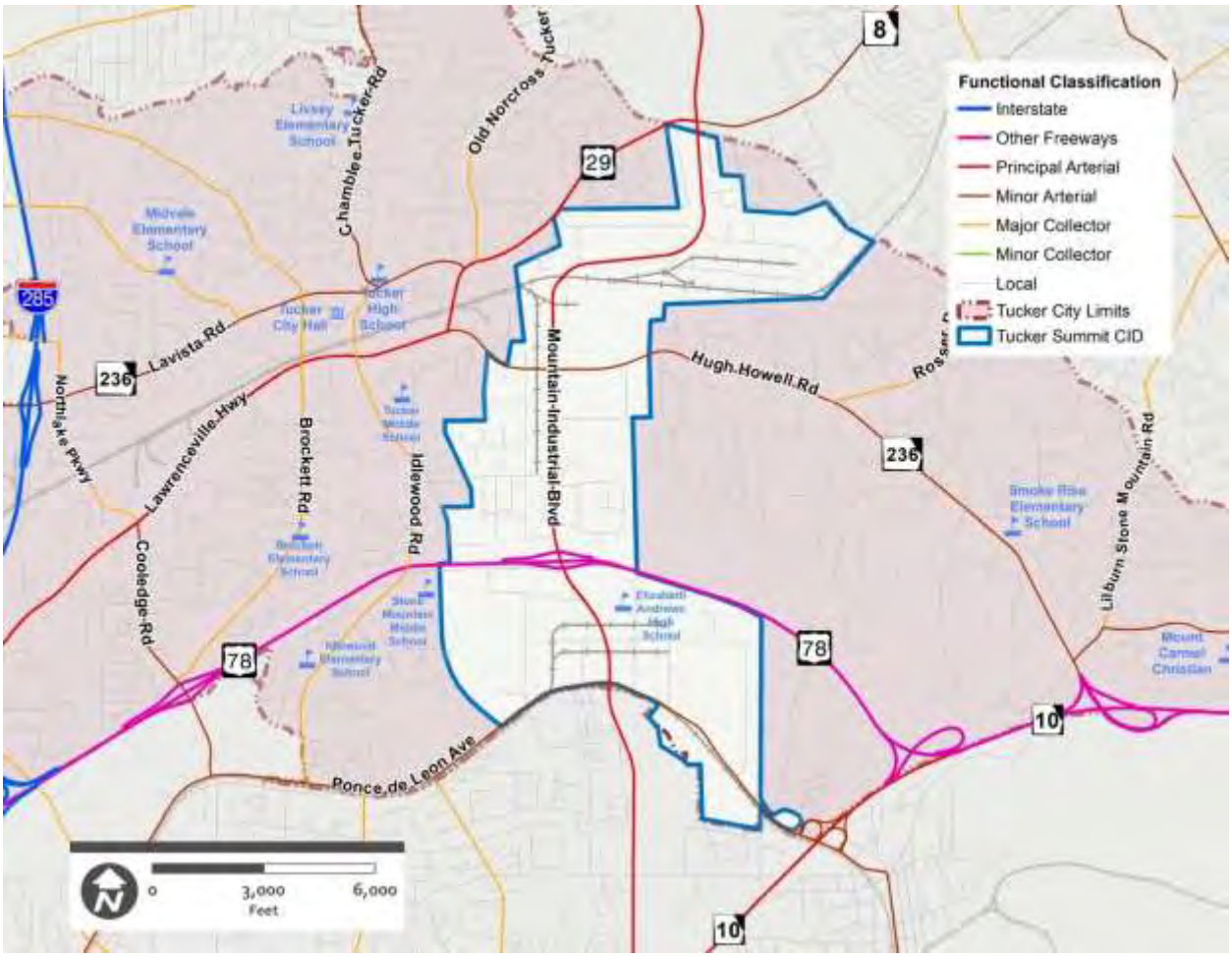
Within TSCID and towards the west, Hugh Howell Road has four travel lanes. There is a small portion between the western TSCID boundary and Mountain Industrial Boulevard that includes a center left-turn lane. East of the TSCID boundary, the road narrows to two lanes as it traverses more residential land uses, including the Smoke Rise Community.

3.1.2 Functional Classification

The study area includes a diverse roadway network that consists of one limited-access expressway (US 78); principal and minor arterial roadways; major and minor collectors that accommodate traffic movements between local roads and regional routes; and local roads that serve local traffic. This is illustrated in Figure 2.

Two miles of US 78 traverse TSCID, providing a vital connection to I-285 to the west. Mountain Industrial Boulevard is TSCID's only principal arterial; north of TSCID it becomes Jimmy Carter Boulevard, providing a connection to I-85 in Gwinnett County. There are two minor arterials, Hugh Howell Road and East Ponce de Leon Avenue, consisting of 1.2 miles and 3.2 miles within the TSCID, respectively. Other roads within TSCID are local roads (14 miles), serving as conduits for truck traffic traveling to and from freight-oriented businesses in the TSCID. While there are no collectors within TSCID, there are several minor collectors in the surrounding area, such as Idlewood Road, Old Norcross Tucker Road, and Rosser Road.

Figure 2: Functional Classification



Source: Gresham Smith, ARC, GDOT[3]

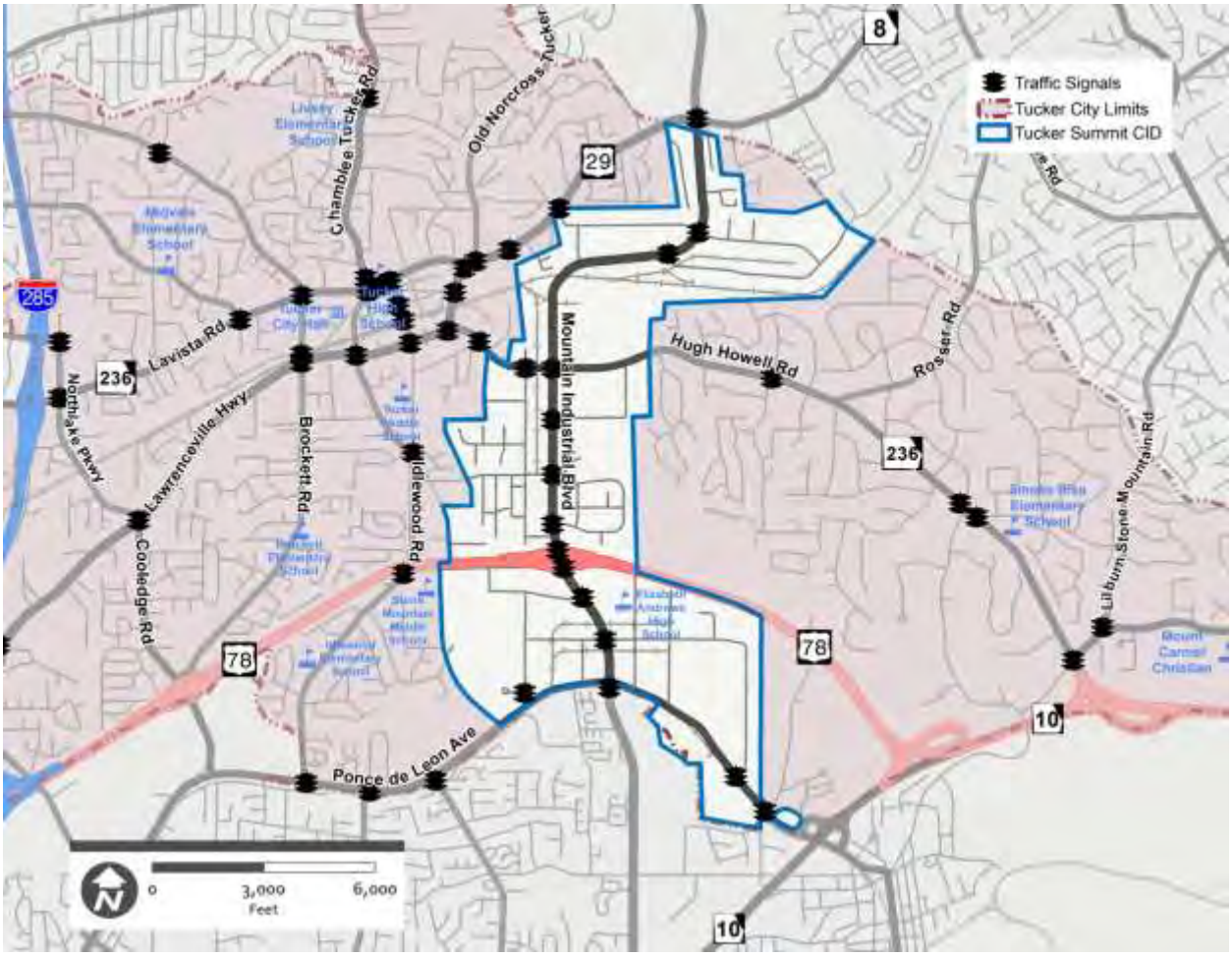
[3] ARC & GDOT (2019). Roadway Functional Classification. Retrieved from https://atlantaregional.org/transportation-mobility/roads-highways/roadway-functional-classification/.

3.1.3 Signal Locations

There are 17 signalized intersections located within TSCID, maintained either by DeKalb County or GDOT. They are shown in Figure 3.

Within the TSCID, 12 of the 17 signalized intersections fall along Mountain Industrial Boulevard, at intersections with Hugh Howell Road, US 78, and East Ponce de Leon Avenue, along with several local roads.

Figure 3: Signalized Intersections



Source: Gresham Smith, City of Tucker[4]

[4] City of Tucker (2020). City of Tucker – Asset Map. Retrieved from https://gis.interdev.com/tucker/tuckerassets/.

3.1.4 ITS and Connected Infrastructure

GDOT administers the Regional Traffic Operations Program (RTOP) in metro Atlanta to manage signal timing in an effort to reduce traffic congestion and vehicle emissions across the Atlanta region. Each RTOP corridor is actively monitored, and signals are re-timed as needed to reduce congestion associated with general or special event traffic. The study area includes four RTOP corridors: Mountain Industrial Boulevard, Hugh Howell Road, US 78, and East Ponce de Leon Avenue. These corridors are shown in Figure 4. Two additional RTOP corridors are adjacent to TSCID: Lawrenceville Highway (US 29/SR 8) to the northwest of TSCID and Memorial Drive (SR 10) to the southeast of TSCID. Within TSCID, there are 17 intersections that fall along RTOP corridors:

- Hugh Howell Road
  - @ Tucker Industrial Road
  - @ Mountain Industrial Boulevard
- Mountain Industrial Boulevard
  - @ Hugh Howell Road
  - @ Granite Drive
  - @ Elmdale Drive/Roger Marten Way
  - @ Hammermill Road (two intersections)
  - @ US 78 Westbound
  - @ US 78 Eastbound
  - @ Greer Circle
  - @ Lewis Road
  - @ East Ponce de Leon Avenue
- US 78
  - @ Mountain Industrial Boulevard (Eastbound & Westbound Ramps)
  - @ Eastbound & Westbound On-Ramp Meters
- East Ponce de Leon Avenue
  - @ Roadhaven Drive
  - @ Mountain Industrial Boulevard/North Hairston Road
  - @ Rock Mountain Boulevard
  - @ West Ridge Avenue/Juliette Road

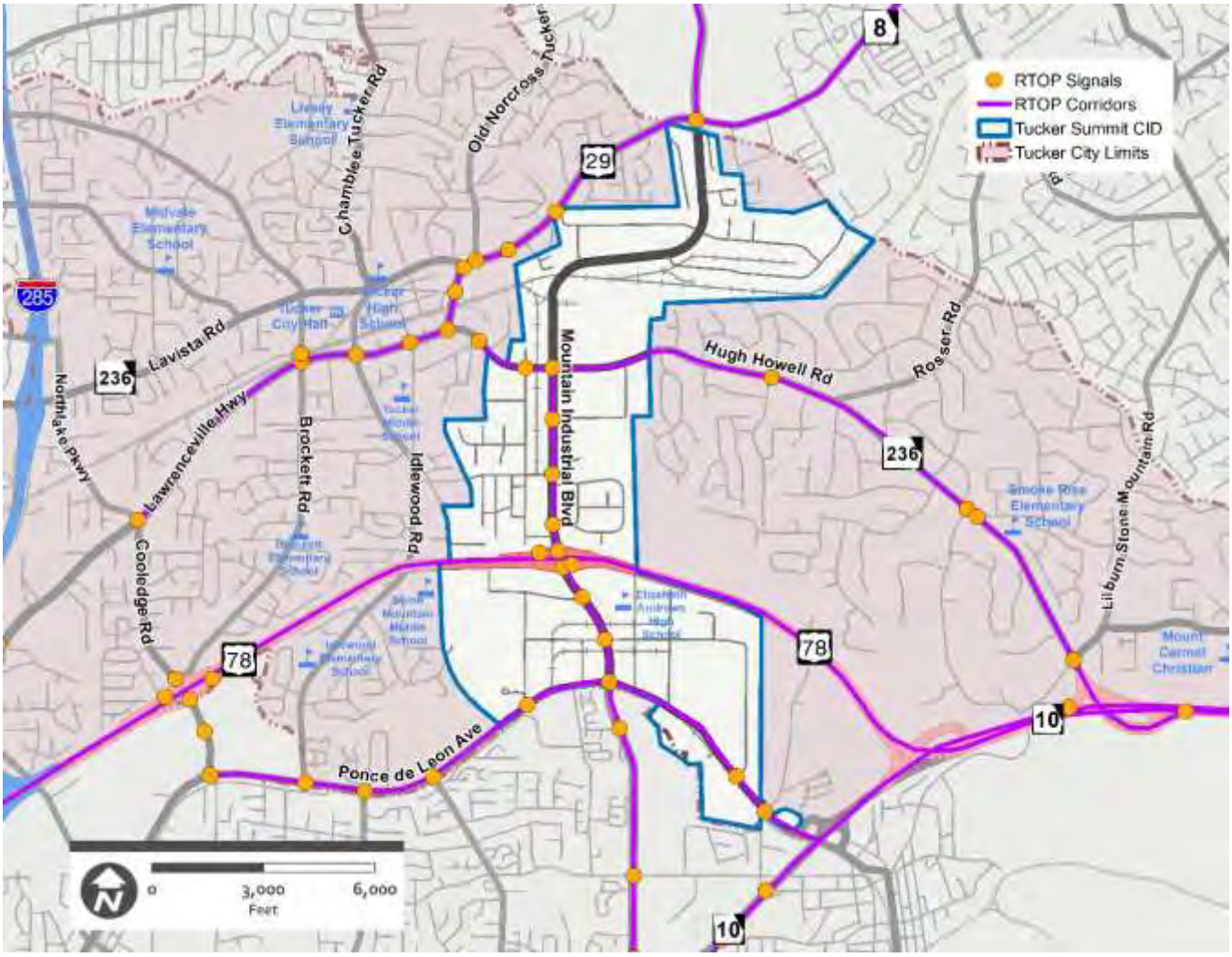
Mountain Industrial Boulevard between Hugh Howell Road and Lawrenceville Highway (US 29/SR 8) is not currently designated as an RTOP corridor. In early 2015, however, signals along Mountain Industrial Boulevard, including those along the segment not designated as an RTOP corridor, were retimed in an effort to improve operations.[5] The City of Tucker recently received a commitment from GDOT RTOP to provide replacement detection at four signalized intersections along Mountain Industrial Boulevard and two signalized intersections along Hugh Howell Road:

- Mountain Industrial Boulevard at Hammermill Road

[5] Kinch, D. (2015). Improvements Made to Mountain Industrial Blvd. Commute. *Atlanta Journal-Constitution.* Retrieved from https://www.ajc.com/news/local/improvements-made-mountain-industrial-blvd-commute/n6k0d0ZWki81mOGJaSgoAN/.

- Mountain Industrial Boulevard at US 78 Eastbound
- Mountain Industrial Boulevard at Lewis Road
- Mountain Industrial Boulevard at East Ponce de Leon Avenue
- Hugh Howell Road at Mountain Industrial Boulevard
- Hugh Howell Road at Tucker Industrial Road

Figure 4: RTOP Corridors and Intersections



Source: Gresham Smith, GDOT

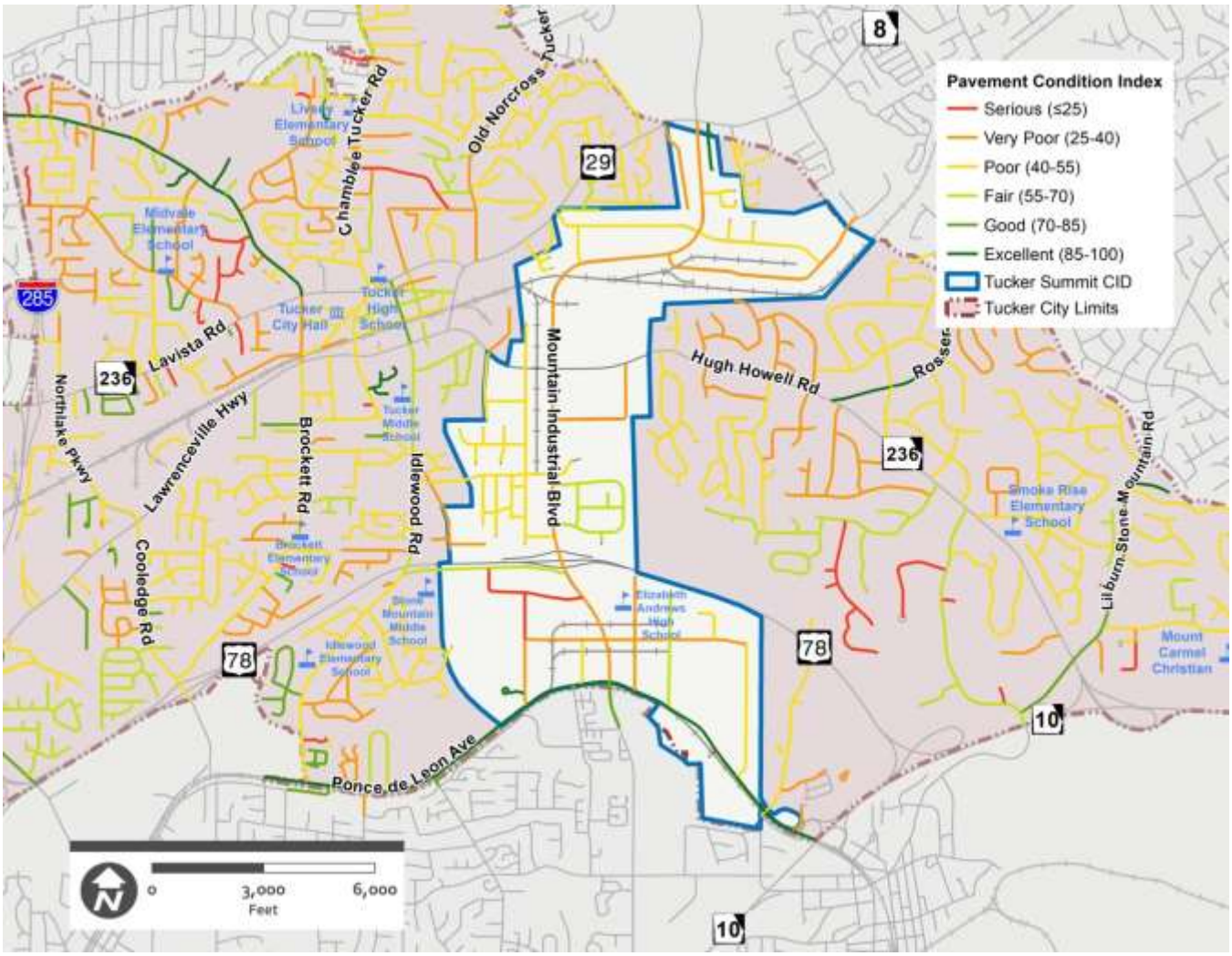
3.1.5 Pavement Conditions

In 2018, the City of Tucker conducted a citywide assessment of non-state roadways to determine pavement condition.[6] As shown in Figure 5, the pavement condition is scored by a pavement condition index (PCI) on a scale of 0 to 100, where 100 represents the best condition.[7] At the time of the

[6] City of Tucker (2018). Tucker Pavement Condition Index (PCI) Ratings. Retrieved from https://www.tuckerga.gov/meeting_detail_T51_R223.php.
[7] City of Tucker (2018). Tucker Pavement Management Study (YouTube Video). Retrieved from https://www.youtube.com/watch?v=6yBamGNvG34.

assessment, most roadways within TSCID received scores indicating road pavement in poor, very poor, or serious condition, with a limited number of roadways in fair, good, or excellent condition. Mountain Industrial Boulevard was determined to be in very poor condition (score of 31.2) along its extent through the TSCID. Beverage Drive received the lowest score (17) and Tucker Valley Road received the highest score (97.2). East Ponce de Leon Avenue within the study area had an excellent pavement condition with a PCI ranging from 92.7 to 94.2.

Figure 5: City of Tucker Pavement Conditions



Source: Gresham Smith, City of Tucker[8]

The DeKalb County SPLOST program has benefited the City of Tucker and the TSCID within it, allowing the City to undertake annual resurfacing schedules to address maintenance needs on both local streets

[8] City of Tucker (2020). City of Tucker - City Map. Retrieved from https://gis.interdev.com/tucker/citymap/.

and primary arterial and collector routes.[9] Numerous resurfacing projects have occurred in the TSCID, including the following:

Table 1. Corridors Resurfaced Since Completion of Pavement Condition Study

Road Name	Year
Mountain Industrial Boulevard	2018
Lewis Road	2018
Rock Mountain Boulevard	2018
Fellowship Road	2018
Roadhaven Drive	2018
Auger Drive	2018
Beverage Drive	2019
Greer Circle	2019

Source: City of Tucker[10]

The pavement schedule map in Figure 6 shows the routes in Table 1 above as dashed lines that were already repaved prior to the development of this Freight Cluster Plan. Additional resurfacings are scheduled to take place through 2023 on the following corridors within TSCID that are shown in Table 2.

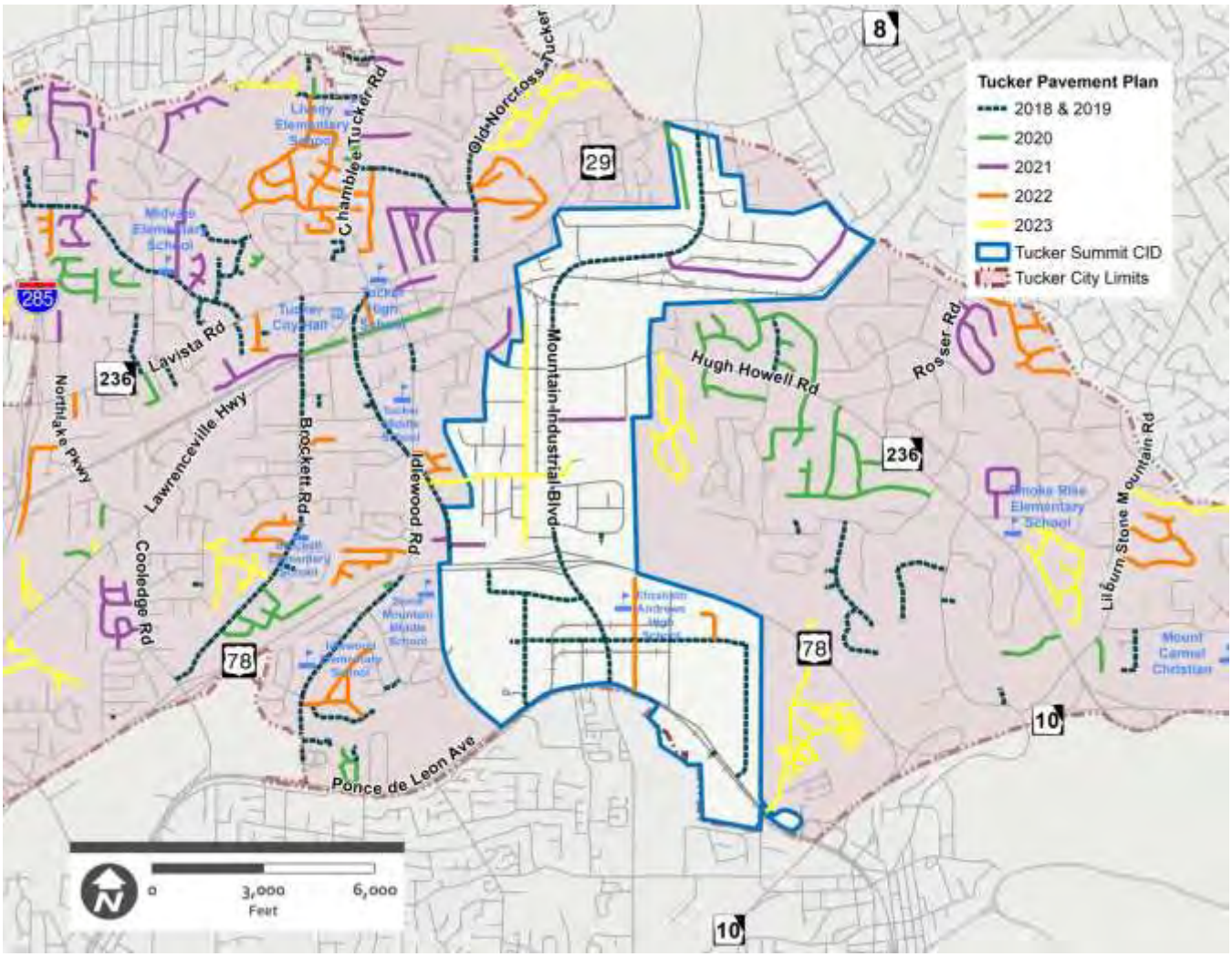
Table 2. Corridors Scheduled for Future Resurfacing

Road Name	Year
Granite Drrive	2021
South Royal Atlanta Drive	2021
Lewis Way	2022
Litton Drive	2022
Elmdale Drive	2023
Juliette Road	2023
Roger Marten Way	2023
Tucker Industrial Road	2023

Source: City of Tucker[11]

[9] City of Tucker (2019). Tucker Unveils SPLOST-Funded Resurfacings for Spring 2019. Retrieved from https://www.tuckerga.gov/news_detail_T14_R294.php.
[10] City of Tucker (2019). Tucker Paving Schedule - 2019. Retrieved from https://www.tuckerga.gov/document_center/SPLOST/Tucker%20Paving%20Schedule%20-%202019.pdf.
[11] City of Tucker (2020). City of Tucker - City Map. Retrieved from https://gis.interdev.com/tucker/citymap/.

Figure 6: City of Tucker Resurfacing Schedule



Source: Gresham Smith, City of Tucker[12]

3.2 Roadway Characteristics

This section examines existing roadway characteristics for the TSCID as well as two industrial areas in the adjacent Lilburn CID - Webb Parkway and Lilburn Industrial Way. The two characteristics assessed are roadway volumes and levels of congestion.

3.2.1 Roadway Volumes

Roadway volumes were derived from GDOT's average annual daily traffic (AADT) counts from 2017.[13] Figure 7 shows 2017 AADT for roads in and around TSCID.

[12] City of Tucker (2020). City of Tucker - City Map. Retrieved from https://gis.interdev.com/tucker/citymap/.
[13] GDOT (2019). Traffic Counts. Retrieved from http://www.dot.ga.gov/DriveSmart/Data/Documents/Traffic_GeoDatabase.zip.

The most heavily traveled corridor through TSCID is US 78. Traffic volume ranges from 92,200 AADT east of Mountain Industrial Boulevard to 109,000 AADT between Mountain Industrial Boulevard and Cooledge Road. Approximately 12,100 average annual vehicles per day utilize the eastbound exit ramp from US 78 to Mountain Industrial Boulevard.

Mountain Industrial Boulevard carries the most traffic among all arterials in the TSCID. Traffic volume is the highest between Hugh Howell Road and East Ponce de Leon Avenue (40,300 AADT), dropping to 29,500 AADT north of Hugh Howell Road. Hugh Howell Road carries 25,600 AADT west of Mountain Industrial Boulevard. East of Mountain Industrial Boulevard, traffic volume along Hugh Howell Road decreases to 12,200 AADT as the roadway approaches the Smokerise residential area outside the TSCID. Among the arterials within TSCID, East Ponce de Leon Avenue carries the lowest volume of traffic, ranging from 11,500 to 12,400 AADT.

To the north of TSCID, Lawrenceville Highway (US 29/SR 8) carries 28,100 AADT west of Mountain Industrial Boulevard. East of Mountain Industrial Boulevard, as the roadway enters Lilburn CID, traffic volume rises to 32,900 AADT. Rockbridge Road, the arterial that connects Lawrenceville Highway (US 29/SR 8) to Webb Parkway, carries 17,700 AADT. As Lawrenceville Highway (US 29/SR 8) proceeds to the northeast, traffic volume rises to 33,600 AADT. Killian Hill Road, which connects Lawrenceville Highway (US 29/SR 8) to Lilburn Industrial Way, has a volume of 21,900 AADT.

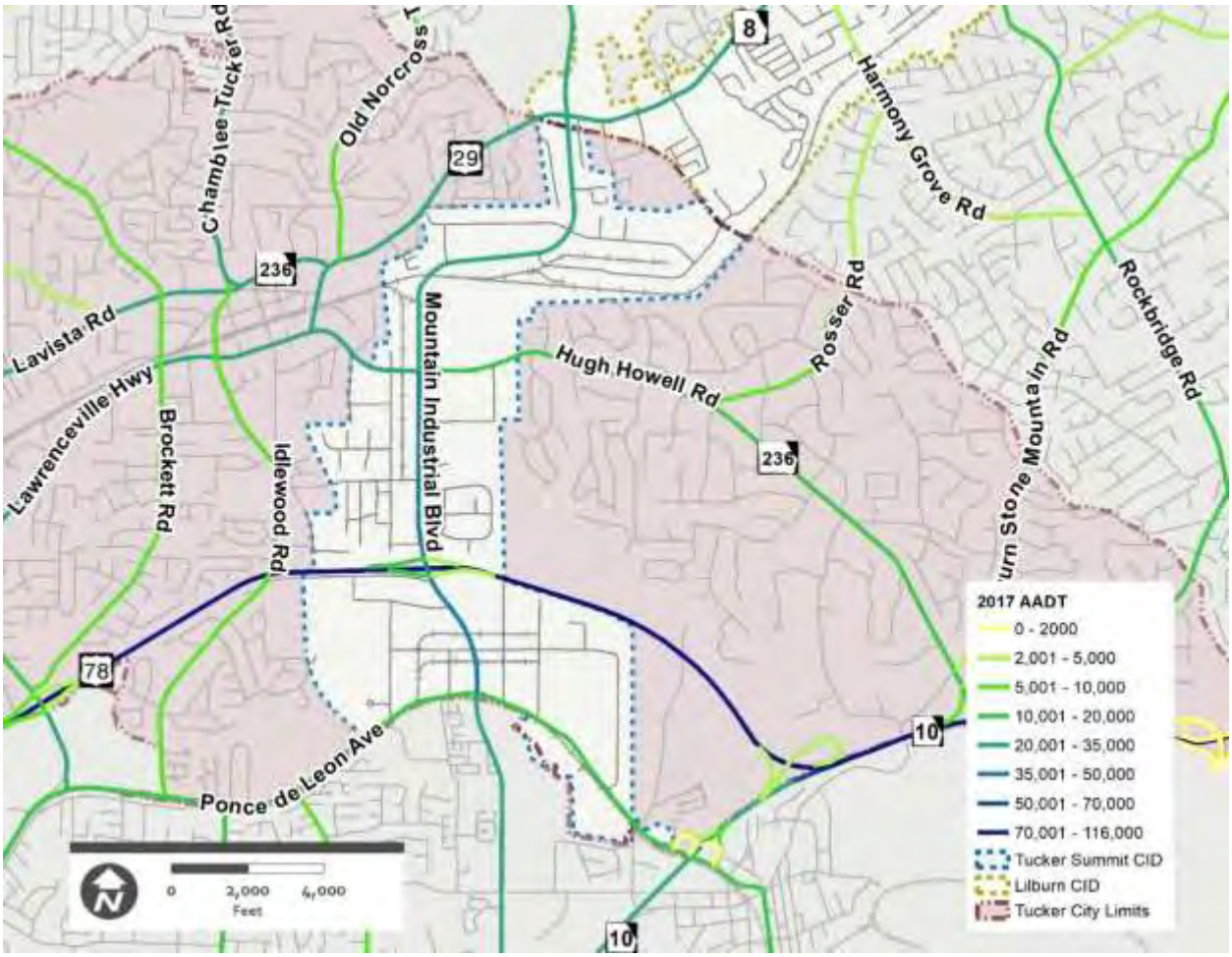
3.2.2 Levels of Congestion

Levels of existing traffic congestion were derived based on data from the ARC activity-based travel demand model (ABM), with 2015 as the base year for analysis. According to the Transportation Research Board's Highway Capacity Manual (HCM), level-of-service, or LOS, is a quantitative categorization of roads based on performance measures representing quality of service such as volume and capacity.[14] The HCM classifies six different LOS levels ranged A through F with LOS A as the best operating conditions for travelers while LOS F is the worst. It should be noted that congestion experienced in reality is often quite different than those shown in models, but the models should be good general indicators of emerging problem areas. Figure 8 depicts 2015 LOS in the TSCID study area based on total daily volume.

LOS for roadways in the study area vary, but patterns emerge based on functional classification and average daily traffic volume. The worst congestion within the TSCID is observed along Mountain Industrial Boulevard. Between Hugh Howell Road and US 78, the corridor experiences LOS F. Elsewhere within TSCID, between Lawrenceville Highway (US 29) and East Ponce de Leon Avenue, Mountain Industrial Boulevard has LOS D and E. North of the study area, where Mountain Industrial Boulevard becomes Jimmy Carter Boulevard, LOS improves to C. South of the study area, where Mountain Industrial Boulevard becomes North Hairston Road, the corridor operates at LOS A and B.

[14] Transportation Research Board (2010). Highway Capacity Manual: A Guide for Multimodal Mobility Analysis, 6th Edition. The National Academies of Sciences, Engineering & Medicine: Washington, DC. Chapter 9, Page 13.

Figure 7: Existing (2018) Roadway Volumes



Source: Gresham Smith, GDOT[15]

Within the TSCID, US 78 operates in congested conditions. West of Mountain Industrial Boulevard, the on-ramps operate at LOS F, and westbound US 78 operates at LOS E. In the eastbound direction west of Mountain Industrial Boulevard, and in both directions west of Mountain Industrial Boulevard, the expressway operates at LOS D.

Hugh Howell Road operates at LOS C within TSCID. East Ponce de Leon Avenue operates at LOS A and B west of Mountain Industrial Boulevard. East of Mountain Industrial Boulevard, the corridor operates primarily at LOS D. Local roads off of Mountain Industrial Boulevard (for which LOS data is available), which are heavily utilized by trucks accessing distribution centers and warehouses, generally operate at acceptable conditions. Lewis Road, North Royal Atlanta Drive and South Royal Atlanta Drive operate at LOS A and B.

Lawrenceville Highway (US 29/SR 8) to the east of Mountain Industrial Boulevard operates at LOS C with the exception of segments adjacent to the intersections of Rockbridge Road and Killian Hill Road, which

[15] GDOT (2019). Traffic Counts. Retrieved from http://www.dot.ga.gov/DriveSmart/Data/Documents/Traffic_GeoDatabase.zip.

operate at LOS D. Rockbridge Road between Jimmy Carter Boulevard and Lawrenceville Highway (US 29/SR 8) operates primarily at LOS E and F. The section of Rockbridge Road that serves Webb Parkway operates at LOS C. Killian Hill Road operates at LOS E and F between Lawrenceville Highway (US 29/SR 8) and Lilburn Industrial Way.

Figure 8: Congestion Levels (LOS) Along Major Roadways

Source: Gresham Smith, ARC Activity-Based Model

3.3 Commute Travel Patterns

There are 11,884 people employed within TSCID, and 848 residents who live within the study area.[16] Table 3 shows the breakdown of the labor market within TSCID.

Of the 848 people that live within TSCID, nearly all residents (95.5%) travel outside the TSCID for employment. Approximately 40 people (4.5%) of residents who live within TSCID are employed within the TSCID. Table 3 shows the labor force efficiency for the study area.

[16] On the Map (2017). Area Profile Analysis in 2017 by Private Primary Jobs – Tucker Summit CID, Georgia. United States Census Bureau. Retrieved from https://onthemap.ces.census.gov/.

Table 3. In-Area Labor Force Efficiency (All Jobs)

	2017	
	Count	Share
Living in the Study Area	848	100.0%
Living and Employed in the Study Area	38	4.5%
Living in the Study Area but Employed Outside	810	95.5%

Source: 2017 American Community Survey (US Census Bureau)

Among the 11,884 workers employed in TSCID, nearly all (99.7%) live outside the TSCID. Table 4 shows employment efficiency for the study area.

Table 4. In-Area Employment Efficiency (All Jobs)

	2017	
	Count	Share
Employed in the Study Area	11,884	100.0%
Employed and Living in the Study Area	38	0.3%
Employed in the Study Area but Living Outside	11,846	99.7%

Source: 2017 American Community Survey (US Census Bureau)

The majority of workers who are employed in TSCID reside in DeKalb and Gwinnett Counties (27.9% and 24.8%, respectively). The next largest share of workers commutes from Fulton County (nine percent), followed by other counties in the Atlanta region. This is shown in Table 5 and Figure 9.

Table 5. Jobs Count by Counties Where Workers Live (All Jobs)

	2017	
	Count	Share
DeKalb County, GA	3,317	27.9%
Gwinnett County, GA	2,953	24.8%
Fulton County, GA	1,065	9.0%
Cobb County, GA	498	4.2%
Henry County, GA	361	3.0%
Walton County, GA	330	2.8%
Clayton County, GA	302	2.5%
Newton County, GA	257	2.2%
Forsyth County, GA	240	2.0%
Rockdale County, GA	212	1.8%
All Other Locations	2,349	19.8%
TOTAL	**11,884**	**100.0%**

Source: 2017 American Community Survey (US Census Bureau)

Figure 9: Commute Travel Patterns

Source: U.S. Census OnTheMap Application, 2017 Data

3.3.1 Mode Share Characteristics

Among workers 16 years and older employed in TSCID, most workers drive alone to work (69%). Twelve percent utilize public transit. Other workers work at home (six percent), use a taxi, motorcycle, or bicycle (three percent), or walk to work (one percent). The mode share for the TSCID study area is shown in Table 6. It should be noted that Census tract boundaries used for this analysis do not directly correlate with TSCID boundary, and calculations are therefore approximate.[17]

[17] American Fact Finder (2017). Table S0801: Commuting Characteristics - 2013-2017 ACS 5-Year Estimates. United States Census Bureau. Retrieved from https://factfinder.census.gov.

Table 6. Mode Share in the TSCID Study Area and Vicinity

	Count	Share
Estimate; Total: - Car, truck, or van - drove alone:	6,731	69%
Estimate; Total: - Car, truck, or van - carpooled:	940	10%
Estimate; Total: - Public transportation (excluding taxicab):	1,155	12%
Estimate; Total: - Walked:	97	1%
Estimate; Total: - Taxicab, motorcycle, bicycle, or other means:	328	3%
Estimate; Total: - Worked at home:	548	6%

Source: 2017 American Community Survey (US Census Bureau)

3.3.2 Truck Volumes

Truck travel characteristics have been derived from the most recent GDOT classification traffic counts available (2018 and 2019).[18]

Within the study area, US 78 (Stone Mountain Freeway) carries the highest volume of trucks. US 78 serves as a critical truck route, connecting freight-oriented businesses in TSCID to I-285 to the west. West of TSCID, US 78 carries 4,490 average daily trucks. East of TSCID, the freeway carries 3,650 average daily trucks.

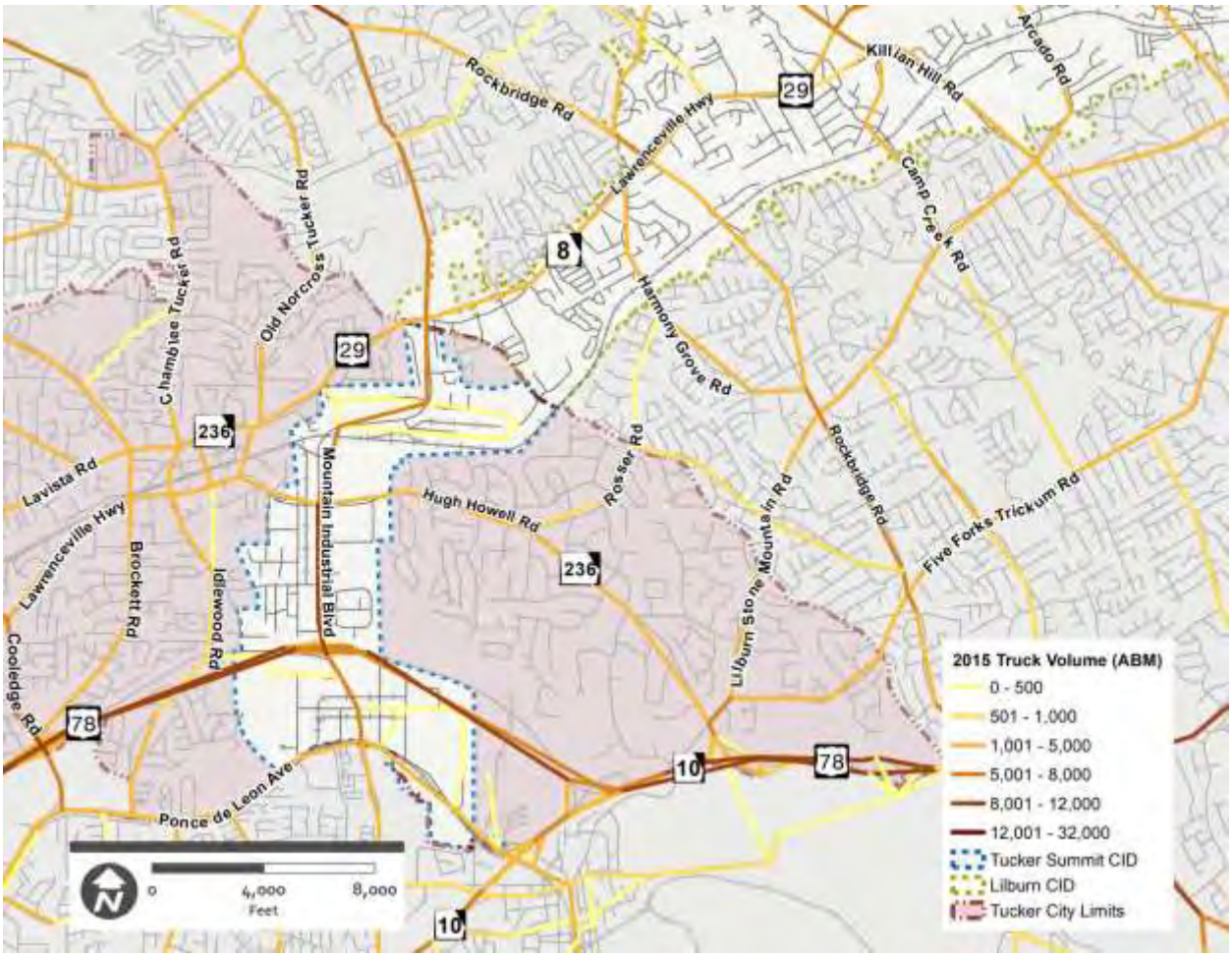
Mountain Industrial Boulevard is the primary designated truck route within TSCID. The corridor is a critical route for trucks traveling between freight-oriented businesses in TSCID and US 78, and for truck traffic traveling between US 78 and I-85. As such, Mountain Industrial Boulevard carries the most truck traffic among all arterials in the study area. Just south of S. Royal Atlanta Drive, the roadway carries 1,990 average daily trucks. North of TSCID, where Mountain Industrial Boulevard becomes Jimmy Carter Boulevard, the roadway carries 1,240 daily trucks.

Lawrenceville Highway (US 29/SR 8) connects to Mountain Industrial Boulevard just north of TSCID, providing access between TSCID and I-285 (to the southwest) and Gwinnett County (to the northeast). The roadway carries 610 average daily trucks west of Mountain Industrial Boulevard, where it traverses a more residential area of Tucker, and 1,540 average daily trucks east of Mountain Industrial Boulevard, where the corridor becomes more industrial.

East Ponce de Leon Avenue, located along the southern boundary of TSCID, connects the TSCID to I-285 to the west and US 78 and Stone Mountain to the east. The corridor carries 530 average daily trucks west of Mountain Industrial Boulevard and 520 average daily trucks east of Mountain Industrial Boulevard. For the industrial areas on Webb Parkway and Lilburn Industrial Road in the adjacent Lilburn CID, truck volume is available only for Rockbridge Road, located approximately 1.5 miles south of Webb Parkway. This portion of Rockbridge Road carries 460 average daily trucks.

[18] GDOT (2019). GDOT Traffic Analysis and Data Application (TADA). Retrieved from https://gdottrafficdata.drakewell.com/publicmultinodemap.asp.

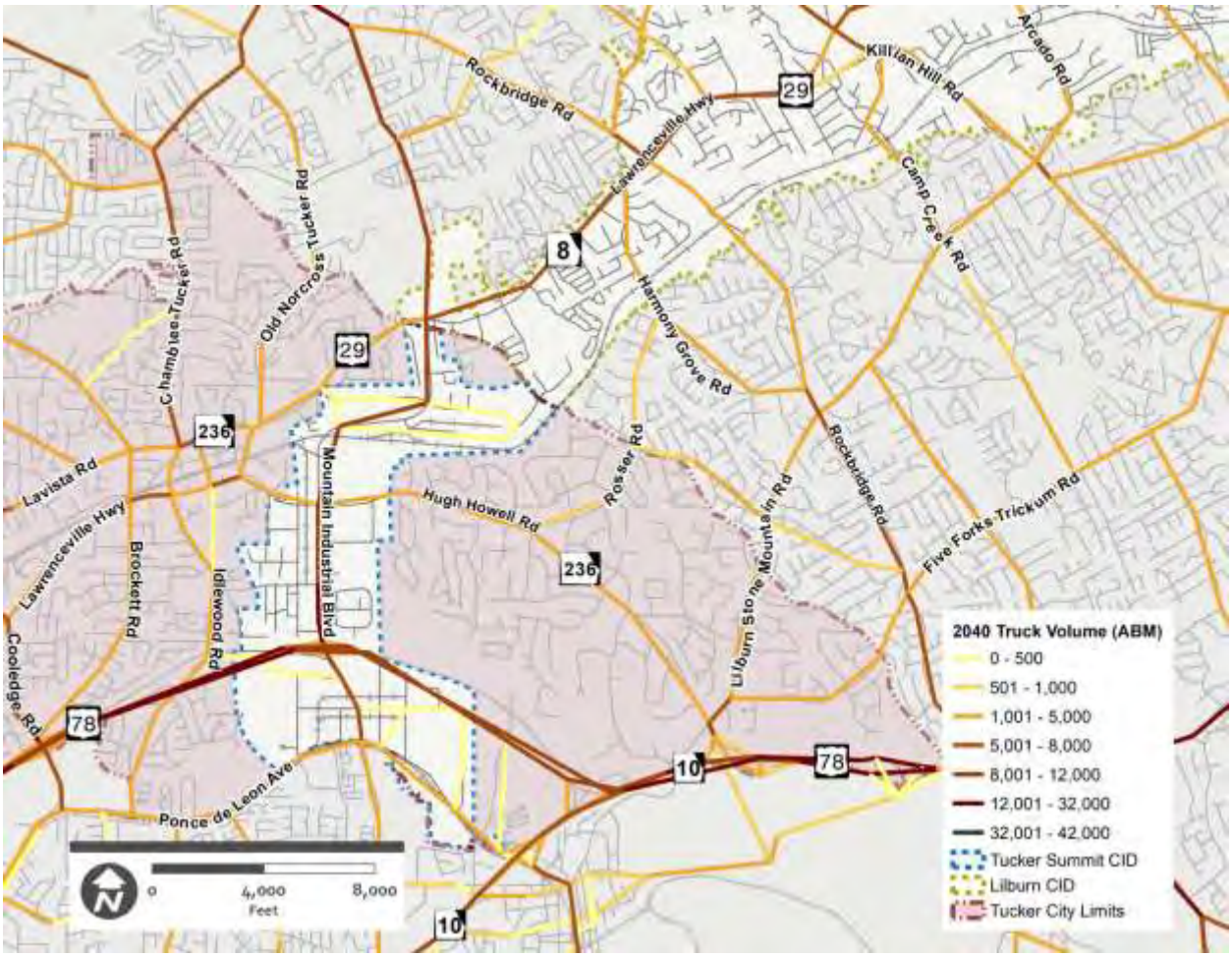
Figure 10: 2015 Truck Volumes along Major Roadways



Source: Gresham Smith, ARC Activity-Based Model

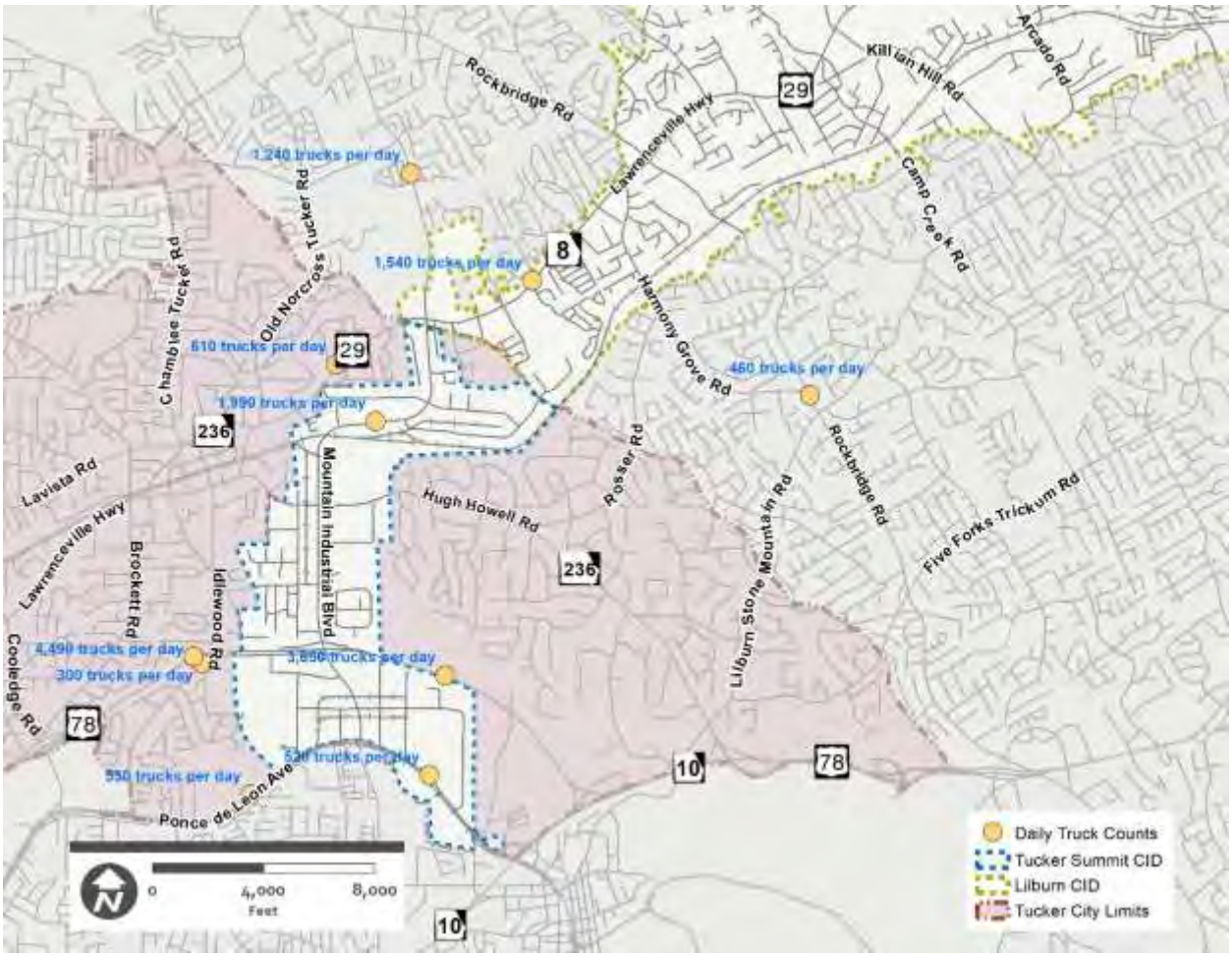
Truck volume is available for a limited number of collector roads in the study area. Idlewood Road is located just west of TSCID, in a residential area of Tucker. The roadway primarily serves single-family neighborhoods, but serves as an alternate route for trucks, connecting TSCID to E. Ponce de Leon Avenue via Elmdale Road and Sarr Parkway. Idlewood Road carries 300 average daily trucks.

Figure 11: 2040 Truck Volume



Source: Gresham Smith, ARC Activity-Based Model

Figure 12: GDOT Daily Truck Volumes



Source: Gresham Smith, GDOT

3.3.3 Planned and Programmed Improvements

There are a number of transportation projects planned and programmed in the TSCID study area through TSCID, City of Tucker, and GDOT. The different types of projects, including maintenance, new roadways, roadway widenings, and traffic operations are intended to improve mobility and safety in the county.[19] Figure 13 shows planned and programmed transportation projects for the TSCID study area.

3.3.3.1 Recently Completed Projects

Along Mountain Industrial Boulevard, interim improvements are being made in advance of larger-scale projects that will be designed to improve mobility along the corridor. Guardrails were recently replaced at the US 78 and Mountain Industrial Boulevard interchange[20], and the existing center left-turn lane on Mountain Industrial Boulevard (near the Gwinnett County line) will be converted to a raised, landscaped median with upgraded street lighting.[21] As discussed in Section 3.1.6, the resurfacing of Mountain Industrial Boulevard was completed in late 2018. Median lighting installation along Mountain Industrial Boulevard is ongoing between the CSX railroad overpass and the Gwinnett County line just to the south of Lawrenceville Highway (US 29/SR 8).[22]

3.3.3.2 GDOT Projects

There are multiple GDOT projects programmed for the study area.[23] Three significant improvements include:

- GDOT PI #0017399 consists of improvements to the Mountain Industrial Boulevard interchange at US 78. The project stems from a Traffic Engineering Study (TE Study) completed in 2019, which identified short-term safety improvements from Elmdale Drive to Greer Circle and a redesign of the interchange.[24] In addition to funding from GDOT, the City of Tucker and TSCID funds from ARC and the Georgia Transportation Infrastructure Bank (GTIB) are being used to implement this project.

  The interchange redesign includes the following improvements:

  - Installation of a narrow median on Mountain Industrial Boulevard from Elmdale Drive to Greer Circle
  - Changes in traffic signal phasing at the two US 78 ramp intersections to protected-only left-turn phases, along with prohibitions for right turns at red signals
  - Increase in the length of deceleration lanes and reduction of skew on US 78 exit ramps

[19] Tucker Summit CID (2020). Active Projects. Retrieved from https://www.tuckersummitcid.com/projects/active/.
[20] Tucker Summit CID (2019). Tucker Summit CID June 2019 Newsletter. Retrieved from https://www.tuckersummitcid.com/news/newsletters/tucker-summit-cid-june-2019-newsletter/.
[21] Tucker Summit CID (2019). Tucker Summit CID October 2019 Newsletter. Retrieved from https://www.tuckersummitcid.com/news/newsletters/tucker-summit-cid-october-2019-newsletter/.
[22] Tucker Summit CID (2019). Tucker Summit CID October 2019 Newsletter. Retrieved from https://www.tuckersummitcid.com/news/newsletters/tucker-summit-cid-october-2019-newsletter/.
[23] Atlanta Regional Commission (2018). FY 2018-2023 Transportation Improvement Program (TIP). Retrieved from https://atlantaregional.org/transportation-mobility/transportation-planning/transportation-improvement-program/.
[24] Lilburn CID (2016). Jimmy Carter Blvd. at US 29/Lawrence Hwy. Intersection Analysis.

- Two exclusive left-turn lanes and two exclusive right-turn lanes on US 78 eastbound exit ramp, along with an increase in the length of the deceleration ramp
- One exclusive left-turn lane and two exclusive right-turn lanes on US 78 westbound exit ramp, along with an increase in the length of the deceleration ramp
- Conversion of Hirsch Drive to a right-in, right-out only intersection
- Conversion of Hammermill Road (north) to a right-in right-out only intersection

- GDOT PI# 0012814 consists of pedestrian improvements at nine locations, two of which fall within TSCID: Hugh Howell Road at McCurdy Road and Hugh Howell Road at Silver Hill Road. Pedestrian improvements are also planned just to the north at Lawrenceville Highway (US 29/SR 8) and Jimmy Carter Boulevard. This project was over 80% complete as of December 2019.[25]

- GDOT PI# 0015216 consists of the addition of dual left turns on northbound and southbound Mountain Industrial Boulevard at Hugh Howell Road. This will be implemented by widening Mountain Industrial Boulevard by approximately six feet and reducing lane widths to 11 feet to accommodate the new turn lanes. The proposed improvements will taper back to match the existing lane configuration. In addition, a right turn lane will be constructed on the eastbound SR 236 approach. Construction of this project is scheduled for 2022.[26]

There are additional resurfacing and pedestrian improvements planned adjacent to TSCID. Lawrenceville Highway (US 29/SR 8) is scheduled to be resurfaced throughout DeKalb County in 2020 (PI# M005808).[27] GDOT PI# 0010633[28] and 0012617[29] consist of improving pedestrian and ADA infrastructure along several corridors in Downtown Tucker, including Lynburn Drive, 1st Avenue, 2nd Street, and 4th Street. There was also a scoping study completed for Lawrenceville Highway (US 29/SR 8) to evaluate alternatives for bicycle and pedestrian facilities along the corridor and develop an access management plan (PI# 0015067).[30]

3.3.3.3 TSCID and City of Tucker Projects

TSCID and the City of Tucker have several projects that have funding allocated and will soon be in design or construction.

[25] GDOT (2019). PI#0012814 Approved Concept Report. Retrieved from http://www.dot.ga.gov/applications/geopi/Pages/Dashboard.aspx?ProjectID=0012814.
[26] GDOT (2019). PI#0015216 SR 236 @ CR 5164/CR 9476/Mountain Industrial Blvd. Retrieved from http://www.dot.ga.gov/applications/geopi/Pages/Dashboard.aspx?ProjectID=0015216.
[27] GDOT (2019). PI#M005808 SR 8 from Fulton County Line to Gwinnett County Line. Retrieved from http://www.dot.ga.gov/applications/geopi/Pages/Dashboard.aspx?ProjectID=M005808.
[28] GDOT (2019). PI#0010633 CR 1062/4th; CR 1072/2nd;CR 1074/1st &CR 1075/Lynburn @ 4 Loc. Retrieved from http://www.dot.ga.gov/applications/geopi/Pages/Dashboard.aspx?ProjectID=0010633.
[29] GDOT (2019). PI#0012617 1ST Ave; 2ND St; 4TH St & Lynburn Dr IN TUCKER - PH II - LCI. Retrieved from http://www.dot.ga.gov/applications/geopi/Pages/Dashboard.aspx?ProjectID=0012617.
[30] GDOT (2019). PI#0015067 SR 8 From Montreal Rd TO Old Norcross Rd Bike/Ped Alt Study. Retrieved from http://www.dot.ga.gov/applications/geopi/Pages/Dashboard.aspx?ProjectID=0015067.

The City of Tucker is widening curb radii at several intersections within the city. These include the following seven intersections within and adjacent to TSCID:

- Lewis Road at Litton Drive
- E. Ponce de Leon Avenue at Litton Drive
- Idlewood Road at Sarr Parkway
- Tucker Industrial Road at Elmdale Drive
- Fellowship Road at Elmdale Drive
- Tucker Industrial Road at Bibb Boulevard
- Mountain Industrial Boulevard at Elmdale Drive

TSCID and the City of Tucker are partnering to improve the intersection of East Ponce de Leon and Rock Mountain Boulevard. The northeast and northwest corners of the intersection will be widened, and turning radii will be increased to 40 feet to better accommodate truck movements.

TSCID is improving the pedestrian crossing at Roadhaven Boulevard near E. Ponce de Leon Avenue, which will include improved lighting and signage.

The City of Tucker is currently in the process of developing an updated sidewalk program for the city; TSCID has provided input to the city on needs for the district, particularly to fill sidewalk gaps along major corridors like Mountain Industrial Boulevard.

3.3.3.4 Other Proposed Projects

The City of Tucker and TSCID have discussed the possibility of requesting that GDOT move the designation of SR 236 from Hugh Howell Road to Mountain Industrial Boulevard, in order to better reflect traffic patterns and make more federal and state funding sources available for improvements along the busy corridor.[31]

3.3.4 Tucker Strategic Transportation Master Plan (STMP)

In 2019, the City of Tucker adopted the Tucker Tomorrow Strategic Transportation Master Plan (STMP), the first plan to guide transportation investments in the city.[32] The STMP includes four projects that fall within TSCID: three intersection improvements along Mountain Industrial Boulevard, and a capacity improvement project along Mountain Industrial Boulevard. Figure 14 shows these tiered corridor and intersection projects. Multimodal improvement projects programmed in the STMP that are located within the TSCID study area are discussed in Section 6.1.1.

Table 7. Tiered Corridor & Intersection Projects from Tucker Tomorrow STMP

Project ID	Project Name	From	To	Tier
C-1	Mountain Industrial Blvd. Widening	Hugh Howell Rd. (SR 236)	US 78	2

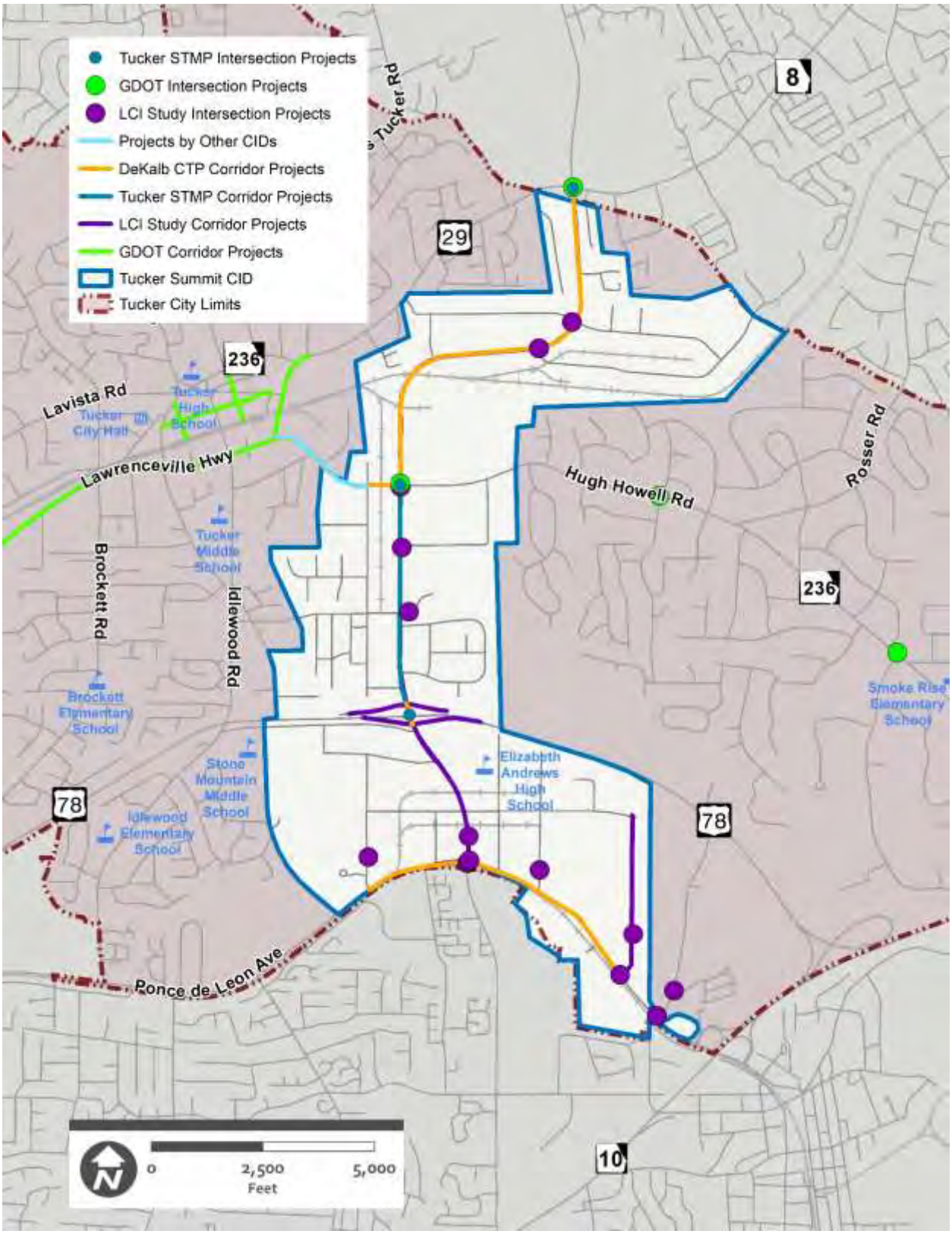
[31] City of Tucker (2018). November 2018 City Council Update. Retrieved from https://www.tuckerga.gov/newsletter_page_T54_R230.php.

[32] City of Tucker (2019). Tucker Tomorrow Strategic Transportation Master Plan. Retrieved from https://www.tuckerga.gov/document_center/Plans%20&%20Studies/Tucker%20Strategic%20Transportation%20Master%20Plan%209-10-2019.pdf.

I-1	Mountain Industrial Blvd. @ US 78 Intersection Improvements	N/A	N/A	1
I-3	Lawrenceville Hwy. (US 29/SR 8) @ Mountain Industrial Blvd. Intersection Improvements	N/A	N/A	N/A
I-5	Hugh Howell Rd. (SR 236) @ Mountain Industrial Blvd. Intersection Improvement	N/A	N/A	1

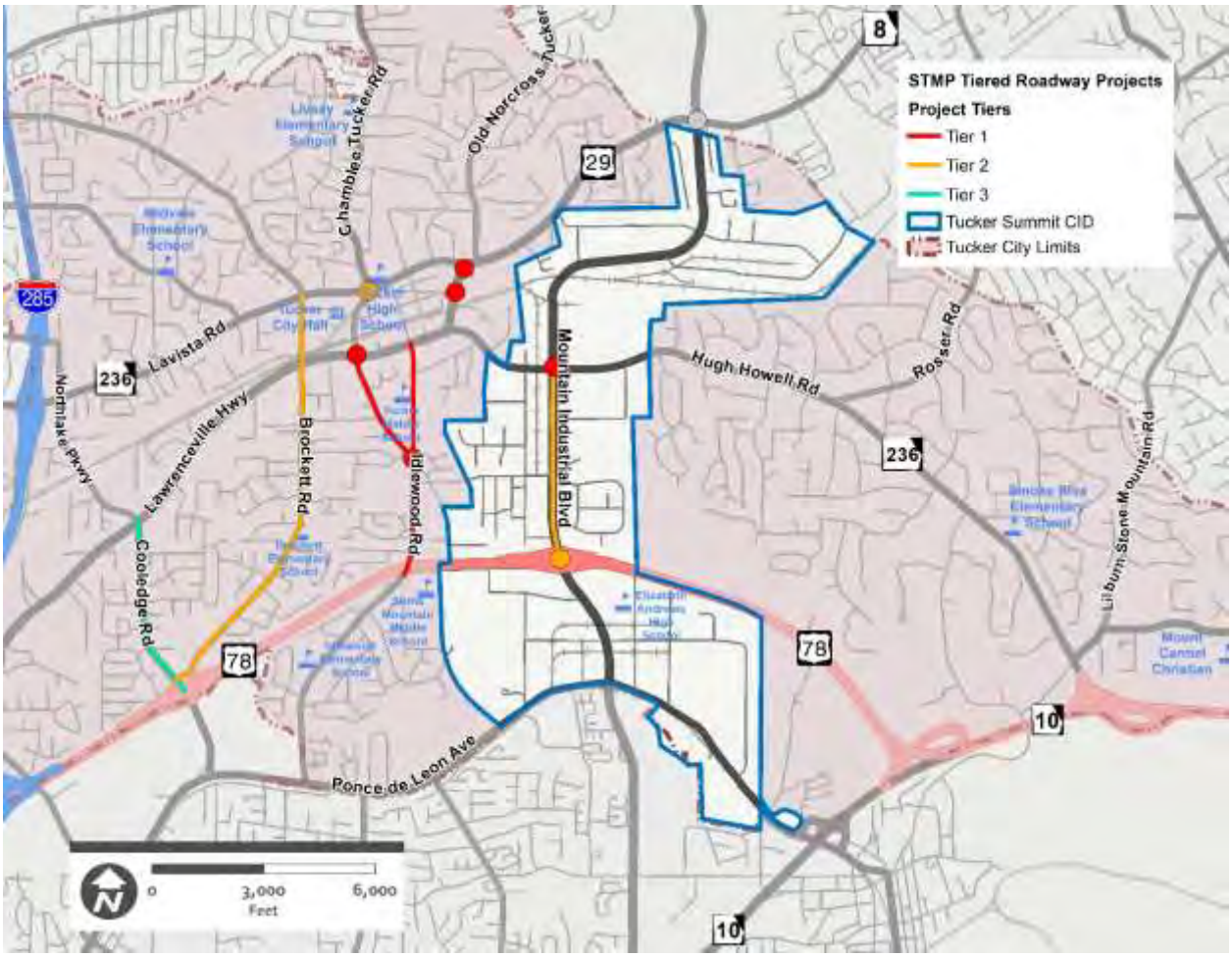
Source: Tucker Tomorrow STMP

Figure 13: Planned Roadway Improvements



Source: Gresham Smith, GDOT, City of Tucker, DeKalb County, ARC

Figure 14: STMP Tiered Roadway Projects



Source: Gresham Smith, City of Tucker

3.3.5 Livable Community Initiative (LCI) Innovation Study

In 2012, TSCID (then Stone Mountain CID) adopted an LCI Innovation Study, an economic development plan designed to strategically guide investments in the area.[33] The study includes several recommended transportation projects to help achieve goals for economic growth. These projects are shown in Figure 13 and Table 8. The projects include streetscape enhancements to make the area more attractive to business; improvements to pedestrian facilities to address workforce needs; and safety and mobility improvements along major corridors, including roadways that are frequently utilized by commercial truck traffic.

Table 8. Stone Mountain CID LCI Innovation Study Transportation Projects

Project ID	Project Name	From	To	Type
T-1	Mountain Industrial Blvd. Freight Safety Improvements	Lawrenceville Hwy. (US 29/SR 8)	E. Ponce de Leon Ave.	Intersection Modifications
T-2	Stone Mountain CID Pedestrian Connectivity Improvements	N/A	N/A	Pedestrian Improvements
T-3	Mountain Industrial Blvd. Interchange Ramp Lighting	N/A	N/A	Interchange Improvement
T-4	E. Ponce de Leon Ave. Operational Improvements	McCurdy Dr.	Rock Mountain Blvd.	Operational Improvement
T-5	Elmdale Dr. Signage (Do Not Block the Box)	QT (1999 Mountain Industrial Blvd.)	N/A	Signage
T-6	Rock Mountain Blvd. Reconstruction	Lewis Rd.	E. Ponce de Leon Ave.	Resurfacing
T-7	Mountain Industrial Blvd. @ E. Ponce de Leon Ave.	N/A	N/A	Intersection Improvement
T-8	CID Wayfinding Improvements	N/A	N/A	Signage
T-9	CID Safety Signage and Restriping	N/A	N/A	Signage & Restriping
T-10	Streetscapes on Mountain Industrial Blvd.	Lawrenceville Hwy. (US 29/SR 8)	E. Ponce de Leon Ave.	Streetscape
T-11	Streetscapes on E. Ponce de Leon Ave	Roadhaven Dr.	SR 10	Streetscape
T-12	SMCID Corridor Gateways	N/A	N/A	Signage
T-13*	Mountain Industrial Blvd. Patching and Repaving	Lawrenceville Hwy. (US 29/SR 8)	E. Ponce de Leon Ave.	Maintenance
T-14	US 78 Interchange Beautification	N/A	N/A	Streetscape
T-15	Mountain Industrial Blvd. at N. & S. Royal Atlanta Dr.	N/A	N/A	Streetscape
T-16	TSCID Boundaries (remove abandoned RR crossings)	N/A	N/A	Safety
***Completed Projects**				

Source: Stone Mountain CID LCI Innovation Study

[33] Stone Mountain CID (2012). Stone Mountain CID LCI Innovation Study Report.

3.3.6 DeKalb County Comprehensive Transportation Plan (CTP)

The 2014 DeKalb County Comprehensive Transportation Plan (CTP) includes several projects within the TSCID study area. These consist of lighting and multimodal improvements, as well as capacity improvements along East Ponce de Leon Avenue.[34]

Table 9. Tiered DeKalb County CTP Projects in TSCID Study Area

Project ID	Project Name	From	To	Tier
2912	Mountain Industrial Blvd. Pedestrian Improvements	Gwinnett County Line	Hugh Howell Rd. (SR 236)	2B
6015	Hugh Howell Rd. (SR 236) Pedestrian Improvements	Lawrenceville Hwy. (US 29/SR 8)	Mountain Industrial Blvd.	2B
6028	Mountain Industrial Blvd. at US 78 Intersection Lighting Improvements	N/A	N/A	2C
6027	E. Ponce de Leon Ave. Lane Width Improvements	Roadhaven Dr.	Rock Mountain Blvd.	3

Source: 2014 DeKalb County CTP

3.3.7 Adjacent CID Projects

The TSCID is located adjacent to three other CIDs: Lilburn CID, Tucker Northlake CID, and Evermore CID in Snellville.

- The Evermore CID includes businesses along US 78/SR 10 in Gwinnett County between Scenic Highway (SR 124) and the Gwinnett-DeKalb County line. The intersection of Main Street (US 78/SR 10) and Scenic Highway (SR 124) was recently reconfigured to include displaced left turns along Main Street (US 78/SR 10), along with improvements to an adjacent route to serve as a bypass for the intersection.[35]
- Lilburn CID is in the process of adding turn lanes and improving the signals at the intersection of Jimmy Carter Boulevard and Lawrenceville Highway (US 29/SR 8) immediately north of TSCID. This project stems from needs identified in a recent roadway safety audit conducted for Lawrenceville Highway (US 29/SR 8). Lilburn CID has prepared schematic plans in collaboration with Gwinnett County DOT in early 2018 and will pursue ARC funding to supplement GDOT and 2016 Gwinnett County SPLOST funding.[36]
- The Tucker Northlake CID and DeKalb County are installing sidewalks on Hugh Howell Road from Lawrenceville Highway (US 29/SR 8) to Tucker Industrial Boulevard. This project is being funded through a community development block grant.[37]

[34] DeKalb County (2014). DeKalb County 2014 Transportation Plan – Recommendations Report, Chapter 22. Retrieved from http://www.dekalbtransportationplan2014.com/documents/DeKalb%202014%20Transp%20Recommendations%20-%20Low%20Resolution.pdf.

[35] Evermore CID (2019). US 78 and SR 124. Retrieved from http://www.evermorecid.org/page.asp?pg=current_projects&id=782.

[36] Lilburn CID (2019). Lawrenceville Highway/U.S. 29/SR 8 at Jimmy Carter Boulevard. Retrieved from https://www.lilburncid.com/lawrenceville-highway-u-s-29-sr-8-at-jimmy-carter-boulevard/.

[37] Tucker Northlake CID (2019). Tucker-Northlake CID Investments. Retrieved from http://tuckernorthlakecid.com/projects/.

3.3.8 Transit Projects

In the DeKalb County Transit Plan, the proposed Hairston Road arterial rapid transit (ART) project would be funded under a full-penny MARTA tax increase scenario that is discussed in the plan. This proposed corridor would utilize Hugh Howell Road and Mountain Industrial Boulevard. It is programmed in the long-term and will be implemented based on MARTA funding scenarios.[38]

Additionally, there is an upcoming corridor study of Mountain Industrial Boulevard and Jimmy Carter Boulevard between East Ponce de Leon Avenue and I-85. The study is a multi-jurisdictional effort that is being led by Gwinnett County in partnership with the City of Tucker, TSCID, Lilburn CID, and Gateway Gwinnett 85 CID. Arterial rapid transit along with other improvements will be considered for Mountain Industrial Boulevard as part of this plan.[39]

3.3.9 Other Major Developments

A new mixed-use development has been proposed for the intersection of Hugh Howell Road and Mountain Industrial Boulevard. The 24-acre, 154,000 square foot site is located at 4650 Hugh Howell and is the site of a former Sears distribution center. The site is currently zoned as light industrial, but the proposed re-zoning is general commercial. Future land use calls for it to remain as light industrial. The proposed site plan included four access points – two along Mountain Industrial Boulevard and two along Hugh Howell Road. This development approval process is ongoing and should be concluded in 2020.[40]

Two developments of regional impact are within or close to the TSCID study area:

- The most relevant DRI is from July 2018 and is referred to as Project Rocket (DRI 2807). It is on a 92-acre site located mostly in unincorporated Gwinnett County along West Park Place Boulevard in the Stone Mountain area. The project proposal consists of a 2,560,000 SF, four-story distribution facility with associated truck courts/drives and 1,800 employee parking spaces. Two driveways on West Park Place Boulevard and one on Bermuda Road are proposed to provide access to the site. The buildout year is 2020. The ARC review found that the site is in proximity to other light industrial and commercial facilities.[41] The site will eventually house an Amazon fulfillment center.[42]
- Another important project is from July 2016. Township Tucker (DRI 2576) on the northeast quadrant of the intersection of Mountain Industrial Boulevard and Hugh Howell Road at the

[38] DeKalb County, GA (2019). DeKalb County Transit Master Plan, p. 5-10. Retrieved from https://www.dekalbcountyga.gov/sites/default/files/2019-09/DeKalb%20TMP%20Final%20Report_FINAL.PDF.
[39] Capelouto, J.D. (2020). Groups in 2 metro Atlanta counties to study traffic on major corridor. *Atlanta Journal-Constitution*. Retrieved from https://www.ajc.com/news/local/groups-metro-atlanta-counties-study-traffic-major-corridor/jJnNxFIBvfpG0MJToG5XOO/.
[40] City of Tucker (2020). City Council Wrap-Up - March 9, 2020. Retrieved from https://www.tuckerga.gov/meeting_detail_T51_R413.php.
[41] ARC (2018). Project Rocket - DRI 2807 Final Report. Retrieved from http://documents.atlantaregional.com/Land%20Use/Reviews/ID1882/ARC%20Final%20Report%20-%20Project%20Rocket%20-%20DRI%202807.pdf.
[42] Joyner, T. (2019). Gwinnett primed for Amazon center. Atlanta Business Chronicle. Retrieved from https://www.bizjournals.com/atlanta/news/2019/12/06/gwinnett-primed-for-amazon-center.html.

same site where the present 4650 Hugh Howell Road development is proposed. The mixed-use project consisted of 89 acres including a 450,000 square foot movie studio, 28,000 square feet of office space, 113,000 square feet of commercial space, 976 residential units, and a continuing care retirement community with 360 units, a 140-room hotel, a 20,000 square foot daycare facility, a 500-seat amphitheater, and an urban farm. The buildout year for this DRI was 2022.[43] The DRI was triggered by a rezoning application, and it was ultimately not approved by the Tucker City Council.[44]

3.4 Projected Roadway Conditions

3.4.1 Projected Roadway Volumes

Projected future traffic volumes were derived based on data from the ABM, with 2040 as the horizon year for analysis. In the 25-year window between 2015 (reflecting the base year of analysis for the ABM) and 2040, traffic in the TSCID study area is expected to increase along many routes. Projected volumes are depicted in Figure 15.

By 2040, US 78 is projected to carry 114,900 vehicles per day east of Mountain Industrial Boulevard and 134,300 vehicles per day west of Mountain Industrial Boulevard, reflecting an increase of 33 to 38 percent from the 2015 ABM. At I-285, Stone Mountain Freeway (US 78) is projected to carry over 145,000 vehicles per day.

Mountain Industrial Boulevard is projected to carry 39,800 to 67,100 vehicles per day by 2040, with the highest projected volumes between the junction with US 78 and Hammermill Road. Table 10 shows the 2015 and 2040 ABM values for segments along Mountain Industrial Boulevard along with the percent increase for each segment. The greatest growth in traffic is projected north of South Royal Atlanta Drive, where traffic is projected to grow by 29 to 31%. Between E. Ponce de Leon Avenue and Hugh Howell Road, traffic is projected to grow by 23 to 25%. Table 10 shows projected traffic volumes and the percentage increase from the base year traffic volumes (2015 ABM) along Mountain Industrial Boulevard.

Hugh Howell Road is projected to carry 24,700 to 32,100 vehicles per day by 2040, reflecting an increase of 37 to 45% from the 2015 ABM. The segment between Fuller Way and Mountain Industrial Boulevard carries the highest projected volumes of 32,100 vehicles (37% increase from the 2015 ABM). The segment between Mountain Industrial Boulevard and Mountain Creek Drive is projected to carry 24,600 vehicles, which is a 45% increase from the 2015 ABM. Table 11 shows projected traffic volumes and the percentage increase from the base year traffic volumes (2015 ABM) along Hugh Howell Road.

[43] ARC (2016). Project Rocket - DRI 2576 Township Tucker. Retrieved from http://documents.atlantaregional.com/Land%20Use/Reviews/ID1695/Final%20Report%20-%20Township%20Tucker%20(DRI%202576).pdf

[44] City of Tucker (2017). Tucker City Council Denies 88-Acre Mixed-Use Project. Retrieved from https://www.tuckerga.gov/news_detail_T14_R21.php.

Table 10. Mountain Industrial Blvd. Projected Traffic Volume Increases

Start	End	Base Year Traffic Volume 2015 ABM (vehicles per day)	Projected Traffic Volume 2040 ABM (vehicles per day)	Percent Change
Lawrenceville Hwy. (US 29/SR 8)	North Royal Atlanta Dr.	34,400	44,400	29%
North Royal Atlanta Dr.	South Royal Atlanta Dr.	32,600	42,600	31%
South Royal Atlanta Dr.	Hugh Howell Rd. (SR 236)	37,200	48,800	31%
Hugh Howell Rd. (SR 236)	Granite Dr.	43,500	53,400	23%
Granite Dr.	Elmdale Dr.	43,500	53,400	23%
Elmdale Dr.	Hammermill Rd. (south)	48,400	59,300	23%
Hammermill Rd. (Southernmost Intersection)	US 78 WB Ramp	54,000	67,100	24%
US 78 WB Ramp	US 78 EB Ramp	45,000	55,800	24%
Stone Mountain US 78 EB Ramp	Greer Cir.	33,500	41,900	25%
Greer Cir.	Lewis Rd.	31,900	39,800	25%
Lewis Rd.	E. Ponce de Leon Ave.	31,900	39,800	25%

Source: ARC Activity-Based Model

Table 11. Hugh Howell Rd. Projected Traffic Volume Increases

Start	End	Base Year Traffic Volume 2015 ABM (vehicles per day)	Projected Traffic Volume 2040 ABM (vehicles per day)	Percent Change
Fuller Way	Mountain Industrial Blvd.	23,500	32,100	37%
Mountain Industrial Blvd.	Mountain Creek Dr.	17,000	24,700	45%

Source: ARC Activity-Based Model

East Ponce de Leon Avenue is projected to carry 11,700 to 19,000 vehicles per day by 2040. The greatest volume is projected between Mountain Industrial Boulevard and Rock Mountain Boulevard. The greatest percentage growth in traffic, as compared to existing traffic volume in the 2015 ABM, is projected between Roadhaven Drive and Mountain Industrial Boulevard (27% increase). Table 12 shows projected traffic volumes and the percentage increase from the base year traffic volumes (2015 ABM) along East Ponce de Leon Avenue.

Lawrenceville Highway (US 29/SR 8) is projected to carry 28,600 to 48,400 vehicles per day by 2040. The highest traffic volume is projected between Harmony Grove Road and Rockbridge Road, and the greatest growth in traffic compared to existing traffic in the 2015 ABM is projected between Rockbridge Road and Greenwood Drive/Inland Way (34% increase). Table 13 shows projected traffic volumes and the percentage increase from the base year traffic volumes (2015 ABM) along Lawrenceville Highway (US 29/SR 8).

Table 12. Ponce de Leon Ave. Projected Traffic Volume Increases

Start	End	Base Year Traffic Volume 2015 ABM (vehicles per day)	Projected Traffic Volume 2040 ABM (vehicles per day)	Percent Change
Roadhaven Dr.	Mountain Industrial Blvd.	9,200	11,700	27%
Mountain Industrial Blvd.	Litton Dr.	16,600	19,000	14%
Litton Dr.	Rock Mountain Blvd.	15,800	17,900	13%
Rock Mountain Blvd.	SR 10	14,200	16,000	13%

Source: ARC Activity-Based Model

Table 13. Lawrenceville Hwy. Projected Traffic Volume Increases

Start	End	Base Year Traffic Volume 2015 ABM (vehicles per day)	Projected Traffic Volume 2040 ABM (vehicles per day)	Percent Change
Mountain Industrial Blvd.	Linda Dr/Lankford Rd.	33,700	44,600	32%
Linda Dr/Lankford Rd.	Harmony Grove Rd.	30,100	39,000	30%
Harmony Grove Rd.	Rockbridge Rd.	38,500	48,400	26%
Rockbridge Rd.	Greenwood Dr./Inland Way	32,700	43,800	34%
Greenwood Dr./Inland Way	Harbins Rd.	31,300	41,500	33%
Harbins Rd.	Holly Ridge Dr./Pine St.	27,400	36,900	35%
Holly Ridge Dr./Pine St.	Hillcrest Rd./Main St.	22,100	28,600	29%
Hillcrest Rd./Main St.	Killian Hill Rd.	22,300	28,800	29%

Source: ARC Activity-Based Model

Rockbridge Road between Lawrenceville Highway (US 29/SR 8) and Arcado Road provides access to freight-oriented businesses along Webb Parkway. This corridor is projected to experience a 40% increase in traffic volume, rising to 15,700 vehicles per day by 2040. Table 14 shows projected traffic volumes and the percentage increase from the base year traffic volumes (2015 ABM) along Rockbridge Road.

Table 14. Rockbridge Rd. Projected Traffic Volume Increases

Start	End	Base Year Traffic Volume 2015 ABM (vehicles per day)	Projected Traffic Volume 2040 ABM (vehicles per day)	Percent Change
Lawrenceville Hwy.	Camp Creek	11,500	16,100	40%
Camp Creek	Arcado Rd.	11,200	15,700	40%

Source: ARC Activity-Based Model

Killian Hill Road between Lawrenceville Highway (US 29/SR 8) and Arcado Road provides access to freight-oriented businesses along Lilburn Industrial Way. This corridor is projected to experience a 30 to 50% increase in traffic volume by 2040, rising to 50,500 vehicles per day between Church Street and Poplar Street. Table 15 shows projected traffic volumes and the percentage increase from the base year traffic volumes (2015 ABM) along Killian Hill Road.

Table 15. Killian Hill Rd. Projected Traffic Volume Increases

Start	End	Base Year Traffic Volume 2015 ABM (vehicles per day)	Projected Traffic Volume 2040 ABM (vehicles per day)	Percent Change
Lawrenceville Hwy.	Church St.	32,800	42,500	30%
Church St.	Poplar St.	38,000	50,500	33%
Poplar St.	Camp Creek	26,100	38,600	48%
Camp Creek	Sandra Dr.	22,600	33,700	49%
Sandra Dr.	Lilburn Industrial Way	22,700	34,000	50%
Lilburn Industrial Way	Arcado Rd.	20,300	30,000	48%

Source: ARC Activity-Based Model

Figure 15: Projected Roadway Volumes

Source: Gresham Smith, ARC Activity-Based Model

3.4.2 Projected Truck Volumes

Projected future truck volumes were derived based on data from the ABM, with 2040 as the horizon year for analysis. In the 25-year window between 2015 (reflecting the base year of analysis for the ABM) and 2040, echoing patterns in general traffic, truck traffic in the TSCID study area is expected to increase along many routes. Truck volumes in the TSCID study area and its surroundings for 2015 and 2040 are depicted in Figure 16 and Figure 17, respectively.

Within the study area, the roadway with the heaviest projected truck volume is US 78, with truck volumes ranging from 22,400 trucks per day east of Mountain Industrial Boulevard to 28,200 trucks per day west of Mountain Industrial Boulevard. This represents an increase in truck volume of 49 and 34 percent, respectively, compared to the 2015 ABM.

Mountain Industrial Boulevard is projected to carry 7,400 to 13,500 trucks per day in 2040, with the highest projected truck volumes between the junction with US 78 and Hammermill Road. By 2040, traffic volume is projected to increase between 27 and 40%, with the greatest growth projected from

Elmdale Drive to Hammermill Road. Table 16 shows projected truck volumes and the percentage increase from the base year truck volumes (2015 ABM) along Mountain Industrial Boulevard.

Table 16. Mountain Industrial Blvd. Projected Truck Volume Increases

Start	End	**Base Year** Traffic Volume **2015 ABM** (vehicles per day)	**Projected** Traffic Volume **2040 ABM** (vehicles per day)	Percent Change
Lawrenceville Hwy. (US 29/SR 8)	North Royal Atlanta Dr.	7,300	10,000	37%
North Royal Atlanta Dr.	South Royal Atlanta Dr.	7,000	9,800	40%
South Royal Atlanta Dr.	Hugh Howell Rd. (SR 236)	7,700	10,600	38%
Hugh Howell Rd. (SR 236)	Granite Dr.	8,900	11,400	28%
Granite Dr.	Elmdale Dr.	8,900	11,400	28%
Elmdale Dr.	Hammermill Rd. (Southernmost Intersection)	9,500	12,100	27%
Hammermill Rd. (Southernmost Intersection)	US 78 WB Ramp	10,500	13,500	29%
US 78 WB Ramp	US 78 EB Ramp	8,500	11,100	31%
US 78 EB Ramp	Greer Cir.	6,300	8,200	30%
Greer Cir.	Lewis Rd.	5,600	7,400	32%
Lewis Rd.	E. Ponce de Leon Ave.	5,600	7,400	32%

Source: ARC Activity-Based Model

Hugh Howell Road is projected to carry 3,600 trucks per day west of Mountain Industrial Boulevard and 4,200 trucks per day east of Mountain Industrial Boulevard by 2040, reflecting an increase of 40 to 44% from the 2015 ABM. Table 17 shows projected truck volumes and the percentage increase from the base year truck volumes (2015 ABM) along Hugh Howell Road.

Table 17. Hugh Howell Rd. Projected Truck Volume Increases

Start	End	**Base Year** Traffic Volume **2015 ABM** (vehicles per day)	**Projected** Traffic Volume **2040 ABM** (vehicles per day)	Percent Change
Fuller Way	Mountain Industrial Blvd.	3,000	4,200	40%
Mountain Industrial Blvd.	Mountain Creek Dr.	2,500	3,600	44%

Source: ARC Activity-Based Model

East Ponce de Leon Avenue is projected to carry 2,600 to 4,100 trucks per day by 2040, with the highest volume projected between Mountain Industrial Boulevard and Litton Drive. Table 18 shows projected truck volumes and the percentage increase from the base year truck volumes (2015 ABM) along East Ponce de Leon Avenue.

Table 18. Ponce de Leon Ave. Projected Truck Volume Increases

Start	End	Base Year Traffic Volume 2015 ABM (vehicles per day)	Projected Traffic Volume 2040 ABM (vehicles per day)	Percent Change
Roadhaven Dr.	Mountain Industrial Blvd.	2,200	2,600	18%
Mountain Industrial Blvd.	Litton Dr.	3,700	4,100	11%
Litton Dr.	Rock Mountain Blvd.	3,400	3,800	12%
Rock Mountain Blvd.	SR 10	2,500	2,900	16%

Source: ARC Activity-Based Model

Lawrenceville Highway (US 29/SR 8) is projected to experience a percent increase in truck volume ranging from 25% (between Harmony Grove Road and Rockbridge Road) to 34% (between Harbins Road and Holly Ridge Drive/Pine Street in Lilburn) by 2040. The highest truck volumes on the corridor are projected between Harmony Grove Road and Rockbridge Road (7,500 trucks per day). Table 19 shows projected truck volumes and the percentage increase from the base year truck volumes (2015 ABM) along Lawrenceville Highway (US 29/SR 8).

Table 19. Lawrenceville Hwy. Projected Truck Volume Increases

Start	End	Base Year Traffic Volume 2015 ABM (vehicles per day)	Projected Traffic Volume 2040 ABM (vehicles per day)	Percent Change
Mountain Industrial Blvd.	Linda Dr/Lankford Rd.	4,800	6,400	33%
Linda Dr/Lankford Rd.	Harmony Grove Rd.	4,600	6,000	30%
Harmony Grove Rd.	Rockbridge Rd.	6,000	7,500	25%
Rockbridge Rd.	Greenwood Dr./Inland Way	5,000	6,600	32%
Greenwood Dr./Inland Way	Harbins Rd.	4,600	6,100	33%
Harbins Rd.	Holly Ridge Dr./Pine St.	4,100	5,500	34%
Holly Ridge Dr./Pine St.	Hillcrest Rd./Main St.	3,500	4,600	31%
Hillcrest Rd./Main St.	Killian Hill Rd.	3,500	4,600	31%

Source: ARC Activity-Based Model

Rockbridge Road between Lawrenceville Highway (US 29/SR 8) and Arcado Road provides access to freight-oriented businesses along Webb Parkway. This corridor is expected to experience a 33 to 37% increase in truck volume between 2015 and 2040. Table 20 shows projected truck volumes and the percentage increase from the base year truck volumes (2015 ABM) along Rockbridge Road.

Table 20. Rockbridge Road Projected Truck Volume Increases

Start	End	Base Year Traffic Volume 2015 ABM (vehicles per day)	Projected Traffic Volume 2040 ABM (vehicles per day)	Percent Change
Lawrenceville Hwy.	Camp Creek	3,000	4,100	37%
Camp Creek	Arcado Rd.	3,000	4,000	33%

Source: ARC Activity-Based Model

Killian Hill Road between Lawrenceville Highway (US 29/SR 8) and Arcado Road provides access to freight-oriented businesses along Lilburn Industrial Way. This corridor is expected to experience a 23 to 45% increase in truck volumes between 2015 and 2040 with the highest increase expected between Poplar Street and Camp Creek. Table 21 shows projected truck volumes and the percentage increase from the base year truck volumes (2015 ABM) along Killian Hill Road.

Table 21. Killian Hill Rd. Projected Truck Volume Increases

Start	End	Base Year Traffic Volume 2015 ABM (vehicles per day)	Projected Traffic Volume 2040 ABM (vehicles per day)	Percent Change
Lawrenceville Hwy.	Church St.	5,300	6,500	23%
Church St.	Poplar St.	5,900	7,400	25%
Poplar St.	Camp Creek	3,800	5,500	45%
Camp Creek	Sandra Dr.	3,400	4,900	44%
Sandra Dr.	Lilburn Industrial Way	3,400	4,900	44%
Lilburn Industrial Way	Arcado Rd.	3,100	4,400	42%

Source: ARC Activity-Based Model

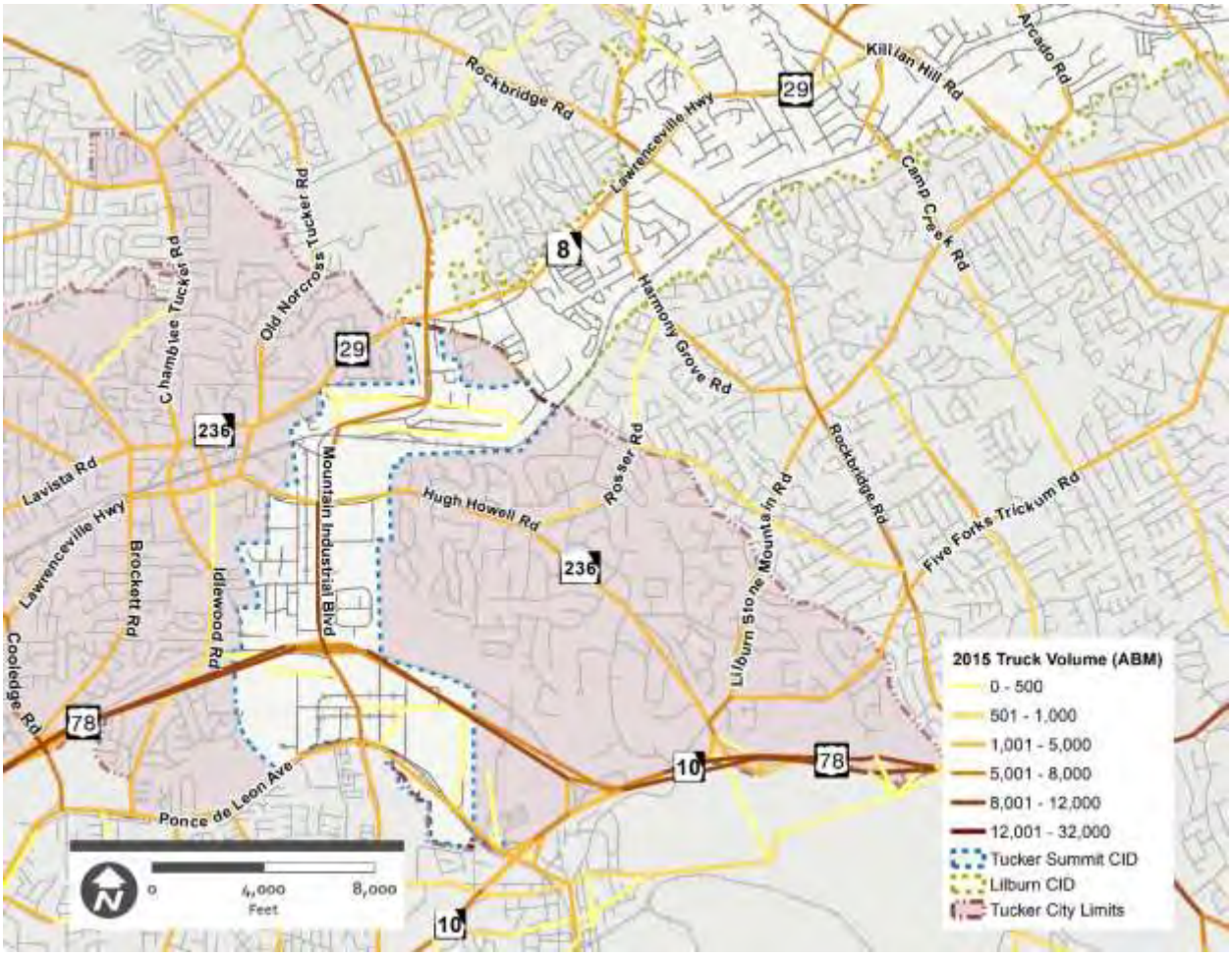
3.4.3 Projected Levels of Congestion

Projected levels of existing traffic congestion were derived based on data from the ABM, with 2040 as the horizon year for analysis. Based on data from the ABM, traffic congestion is projected to increase along a number of corridors within and extending into TSCID. LOS for 2040 in the Tucker region and the TSCID study area is depicted in Figure 18.

Within the study area, Mountain Industrial Boulevard between Rockbridge Road and East Ponce de Leon Avenue is projected to operate at LOS of E or F by 2040. In 2015, the corridor operated at LOS E or F only between South Royal Atlanta Drive and US 78, so this corridor will experience significant growth in volume in the next 25 years. US 78 is projected to operate at LOS F west of Mountain Industrial Boulevard and at LOS E to the east of Mountain Industrial Boulevard, reflecting worsening congestion compared to 2015 (LOS D). Hugh Howell Road is projected to operate at LOS E between Lawrenceville Highway (US 29/SR 8) and Mountain Industrial Boulevard, reflecting worsening congestion compared to 2015 (LOS C). East Ponce de Leon Avenue east of Mountain Industrial Boulevard is projected to operate at LOS E by 2040, reflecting worsening congestion compared to 2015 (LOS D).

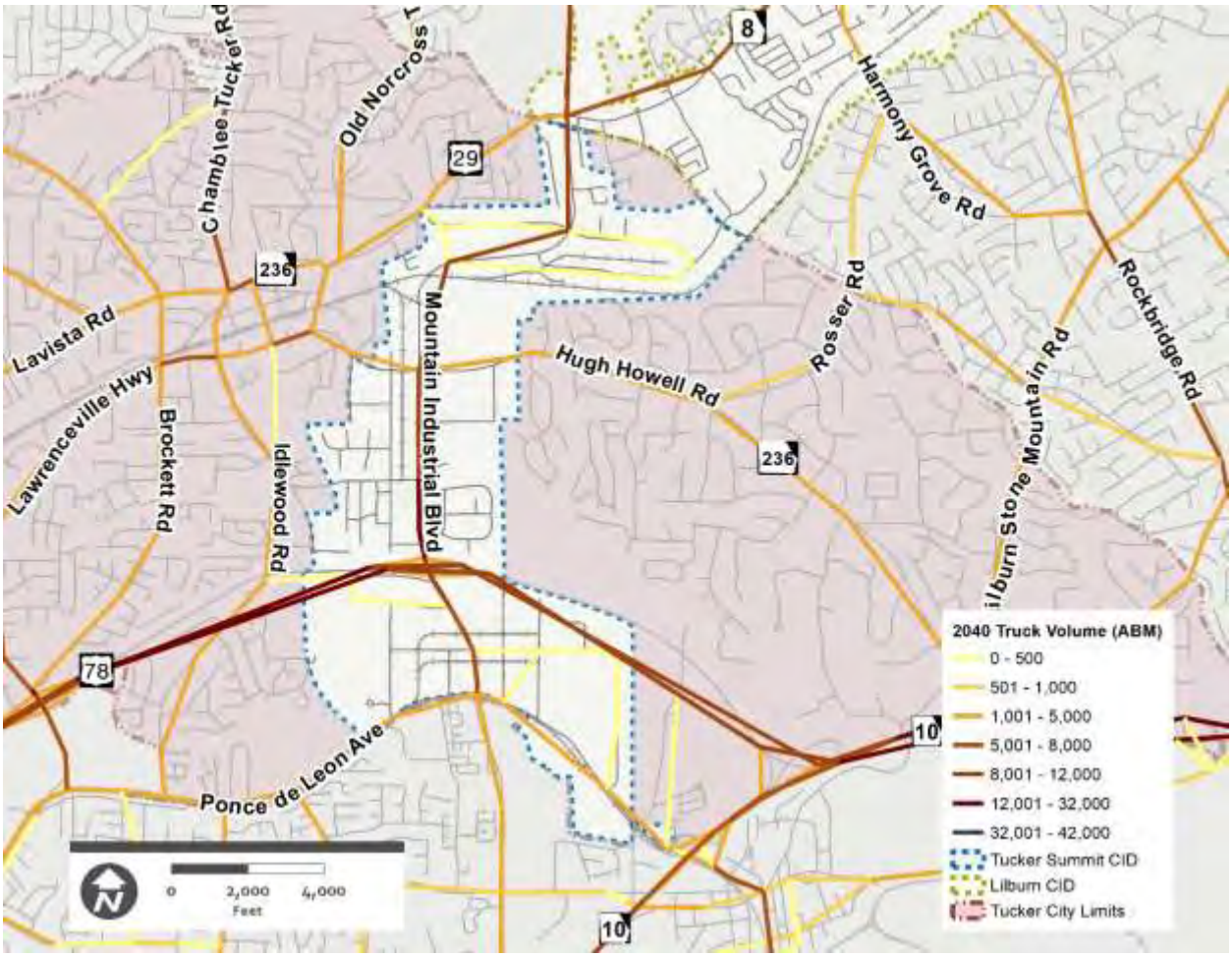
Other corridors in the study area projected to operate at a deficient LOS by 2040 include Brockett Road, Lawrenceville Highway (US 29/SR 8) to the east of Mountain Industrial Boulevard/Jimmy Carter Boulevard, Jimmy Carter Boulevard, Main Street (Stone Mountain), I-85, and I-285. In the adjacent Lilburn CID, corridors that are projected to operate at a deficient LOS by 2040 include Rockbridge Road, Harmony Grove Road, Dickens Road, Killian Hill Road, Arcado Road, and Camp Creek Road.

Figure 16: 2015 Truck Volumes



Source: Gresham Smith, ARC Activity-Based Model

Figure 17: 2040 Projected Truck Volumes



Source: Gresham Smith, ARC Activity-Based Model

Figure 18: 2040 Projected Roadway LOS

Source: Gresham Smith, ARC Activity-Based Model

3.5 Bridges

Based on FHWA's National Bridge Inventory (NBI) updated in July 2019[45], and GDOT inspection reports[46], there are three roadway bridges within the TSCID study area, with an additional five located near the study area boundaries. The bridge conditions for these eight structures are depicted in Figure 19.

3.5.1 Inventory

For the purposes of this study, major bridges were considered to be those along a regional truck route, arterial street, or within the study area. Three bridges were within the study area and also along a regional truck route (Mountain Industrial Boulevard). An additional five bridges were in close proximity to the study area along arterial streets or regional truck routes. These bridges are shown in Figure 19.

3.5.2 Condition

Based upon bridge inspections, the NBI classifies bridge condition as Good, Fair, or Poor. A bridge with a rating of Poor is defined as structurally deficiently, indicating a need for improvement, repair, and/or replacement. Bridges are defined as structurally deficient if the deck, superstructure, and/or substructure is in poor, serious, critical, or imminent failure condition, requiring maintenance or rehabilitation.[47] None of these eight bridges are currently in poor condition. Four are in fair condition, three are in good condition, and one bridge has insufficient data to rate condition. Of the bridges that are not railroad overpasses (089-0132-0, 089-139-0, and 089-0214-0), there are no known incidences of trucks hitting bridges, based on crash data, stakeholder input, and conditions observed during field visits. In addition, none of these bridges have signage indicating low vertical clearance. It should be noted, however, that each of the bridges has a vertical clearance that falls below the vertical clearance standard as established by GDOT.[48] The minimum vertical clearance for bridges over state routes (non-interstate) is 16'9", and the permissible clearance (with approval from the GDOT Bridge Office) is 16'6". The Mountain Industrial Boulevard overpass over US 78 has a vertical clearance of 16'3"; the E. Ponce de Leon Ave overpass over SR 10 has a vertical clearance of 16'4"; and the Idlewood Road overpass over US 78 has a vertical clearance of 16'2". This indicates that these bridges may be vulnerable to impact from tall trucks, and that the bridges should be elevated to meet the minimum clearances when they undergo repair or replacement.

Table 22. Major Bridges in or Near TSCID Study Area by Condition

Bridge Name	Location	Condition
089-0006-0	Lawrenceville Hwy. (US 29/SR 8) @ CSX Railroad	Good
089-0113-0	US 78 @ SR 10	Fair
089-0132-0	Mountain Industrial Blvd. @ US 78	Fair

[45] FHWA (2019). National Bridge Inventory. Retrieved from https://www.fhwa.dot.gov/bridge/nbi.cfm.
[46] GDOT (2020). GeoPi Application. Retrieved from http://www.dot.ga.gov/DS/Maps/geopi.
[47] FHWA (2018). FHWA Computation Procedure for the Bridge Condition Measures, p. 6-7. Retrieved from https://www.fhwa.dot.gov/tpm/guidance/hif18023.pdf.
[48] GDOT (2020). Bridges and Structures Manual. Chapter 2, Section 2.3.3.1. Retrieved from http://www.dot.ga.gov/PartnerSmart/DesignManuals/BridgeandStructure/GDOT_Bridge_and_Structures_Policy_Manual.pdf

089-0139-0	E. Ponce de Leon Ave. @ SR 10	Fair
089-0131-0	Mountain Industrial Blvd. @ CSX Railroad	Good
089-0214-0	Idlewood Rd. @ US 78	Good
089-0144-0	N. Hairston Rd. @ CSX Railroad	Fair
089-0238-0	Memorial Dr. (SR 10) @ CSX Railroad	N/A

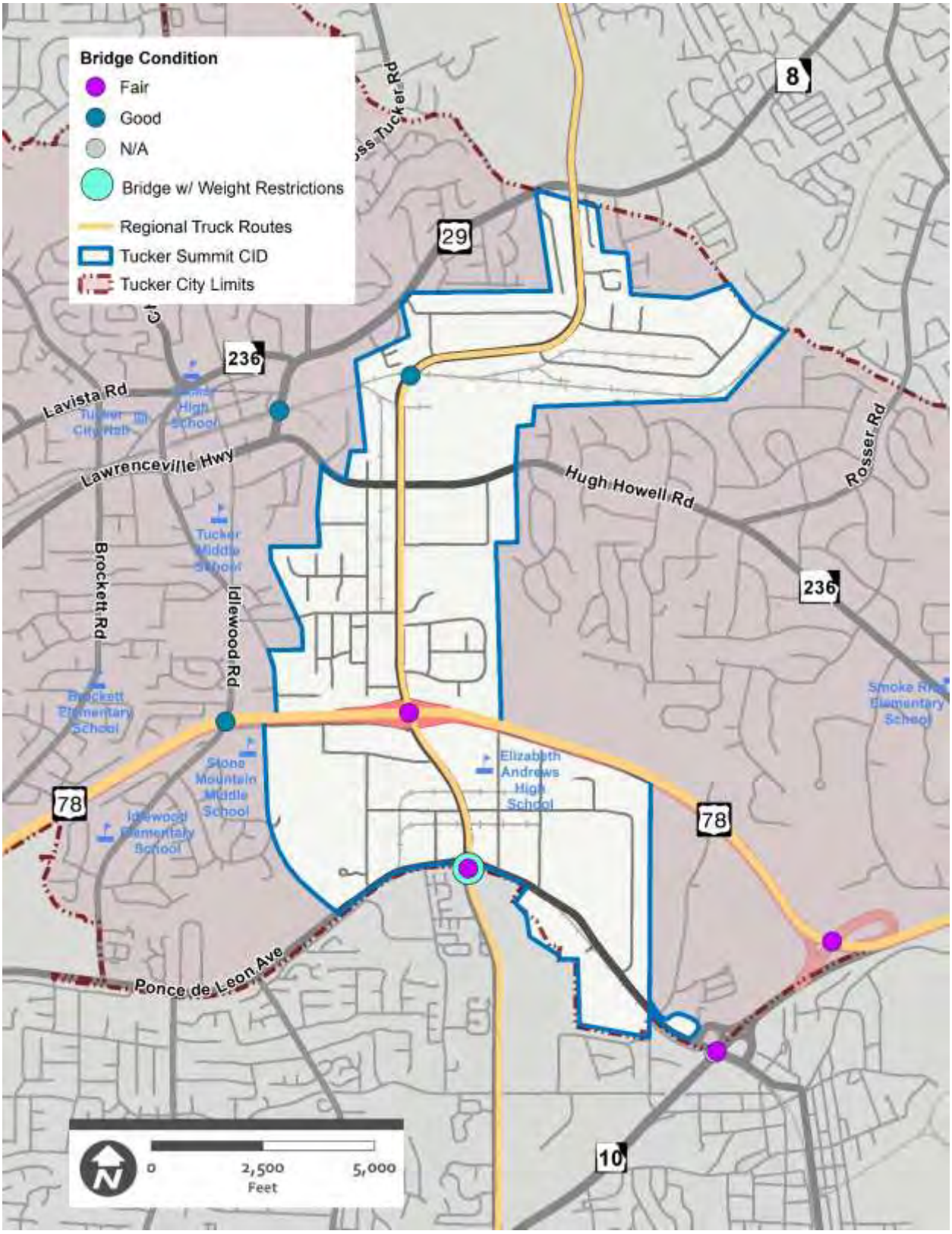
Source: GDOT & National Bridge Inventory

3.5.3 Weight Restrictions

The bridge located along North Hairston Road over the CSX Railroad immediately south of the intersection with East Ponce de Leon Avenue currently has weight restrictions. H-modified trucks, type 3/tandem trucks, and timber trucks each have posting requirements on this bridge of 16 tons, 15 tons, and 22 tons, respectively. This bridge is currently in fair condition; it was constructed in 1963 and reconstructed in 1982.[49]

[49] GDOT (2020). 089-0144-0 Bridge Documents – GeoPi. Retrieved from http://www.dot.ga.gov/applications/geopi/Pages/BridgeDocument.aspx?StructureID=089-0144-0.

Figure 19: Major Bridges in or around the TSCID Study Area



Source: Gresham Smith, GDOT, National Bridge Inventory

4 Freight Network and Environment

The purpose of this section is to provide an overview of the TSCID freight environment including its roadways, railroads and intermodal facilities.

4.1 Designated Truck Routes

There are two sets of designated truck routes that comprise the cumulative roadway freight network within the TSCID:

- ARC Regional Freight Network - Regional truck routes in the TSCID are Mountain Industrial Boulevard and US 78. These routes provide the following critical connections:
    - Mountain Industrial Boulevard - Provides connections to I-85 as well as US 78 and I-20 via Wesley Chapel Road. Other truck routes accessible through this route include Peachtree Industrial Boulevard, SR 155, and Buford Highway (US 23/SR 13).
    - US 78 - Provides limited-access east-west connectivity through the study area and allows vehicles to access I-285 and Decatur to the west and Stone Mountain, Stone Mountain Park, Snellville, and Athens to the east. Additional truck routes that can be accessed through this route include Clairmont Road (US 23) and SR 124 in Snellville.
- National Highway Freight Network – I-85 and I-285, which connect the TSCID to the national highway network.
- DeKalb County Truck Routes – The DeKalb 2014 Transportation Plan identifies Mountain Industrial Boulevard and US 78 as “Potential Regional Routes” and Hugh Howell Road and US 29 (Lawrenceville Highway) as “Current County Routes.” However, the Plan expresses the need to update their County network to be more consistent with the ARC Regional Freight Network.

A map of the relevant freight network in and around the TSCID area is provided in Figure 20.

4.2 Railroads and Railroad Crossings

As shown in Figure 20, there are two rail lines which intersect the TSCID; both are CSX lines. The ‘Seaboard Air Line’ to the north has two spur lines: one between North/South Royal Atlantic Drives and one parallel and to the west of Mountain Industrial Boulevard. This crossing is grade-separated. The southern line runs parallel to Ponce de Leon Avenue, and a spur line north between McCurdy Drive and Roadhaven Drive, and then splitting into two branches, one north of Lewis Road and one south. Based on crash data, neither of these crossings present safety issues within the TSCID.

4.3 Other Freight Facilities and Amenities

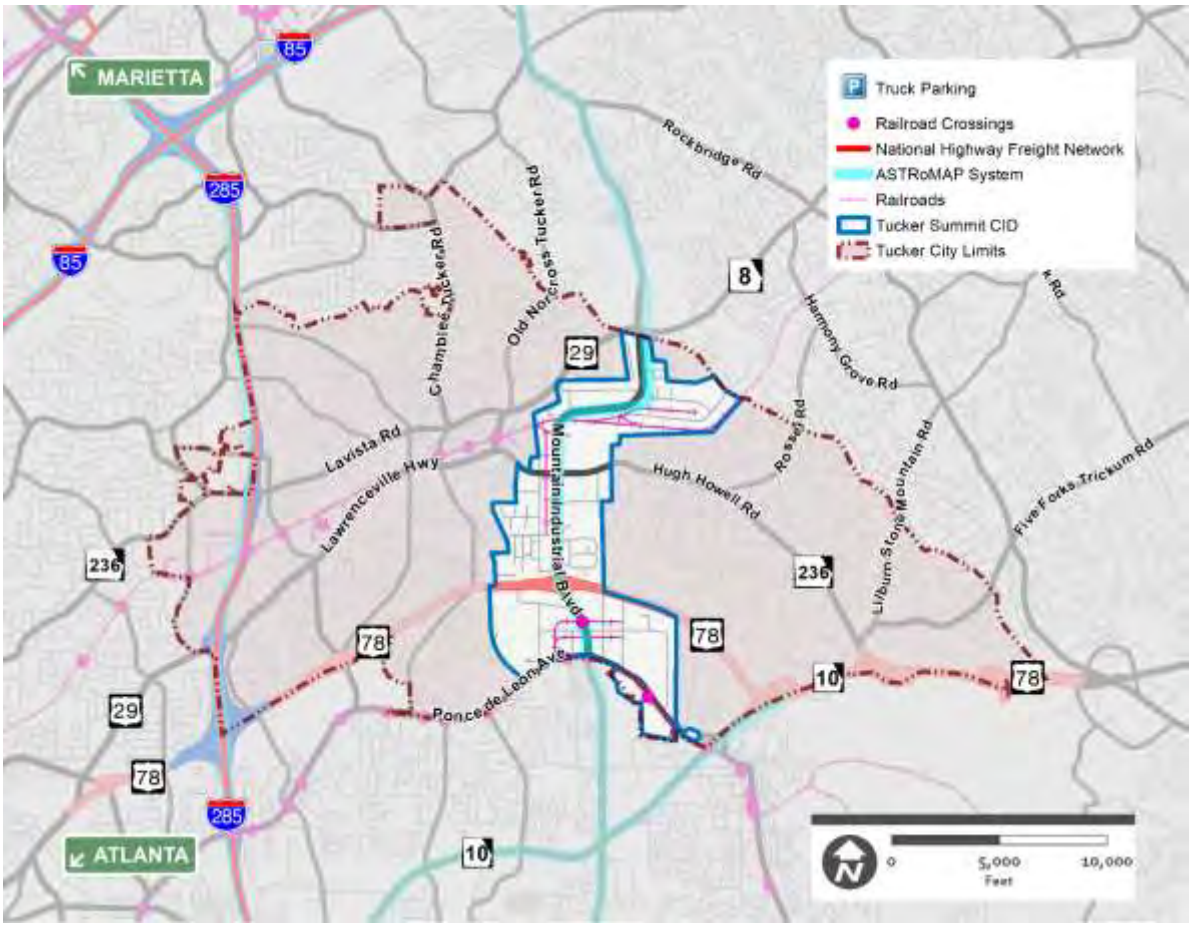
Other aspects investigated as part of this analysis include truck parking, truck restrictions, alternative fuel stations and intermodal terminals, which are summarized as follows:

- Truck Parking - Pursuant to the ARC Regional Truck Parking Assessment Study, there are currently no truck parking facilities identified within the TSCID. The closest facility is located off of I-85 at 4086 Pleasantdale Road in Doraville and is a QT truck facility. Given the amount of industrial uses in the TSCID, the need for additional truck parking is an issue this study will address in developing potential recommendations. Throughout the TSCID, security has reported

trucks staging when arriving prior to their intended delivery time. In addition to the presence of truck staging in the area, local officials noted three areas of concern for illegal truck parking within the TSCID boundaries. Those areas, as seen in Figure 21, include McCurdy Drive between Lewis Road and E Ponce de Leon Avenue, a parking lot just north of E Ponce de Leon on Roadhaven Drive, and the interior roadways of the Hammermill Road Loop, Forge Street and Stone Drive. Outreach activities with local operators identified the need for truck staging near Lewis Road, Roadhaven Road, and Stone Ridge Drive. Operators also identified the need for overnight truck parking near the interchange of US 78 and Mountain Industrial Boulevard, and in the vicinity of Rock Mountain Road and E. Ponce de Leon Avenue.

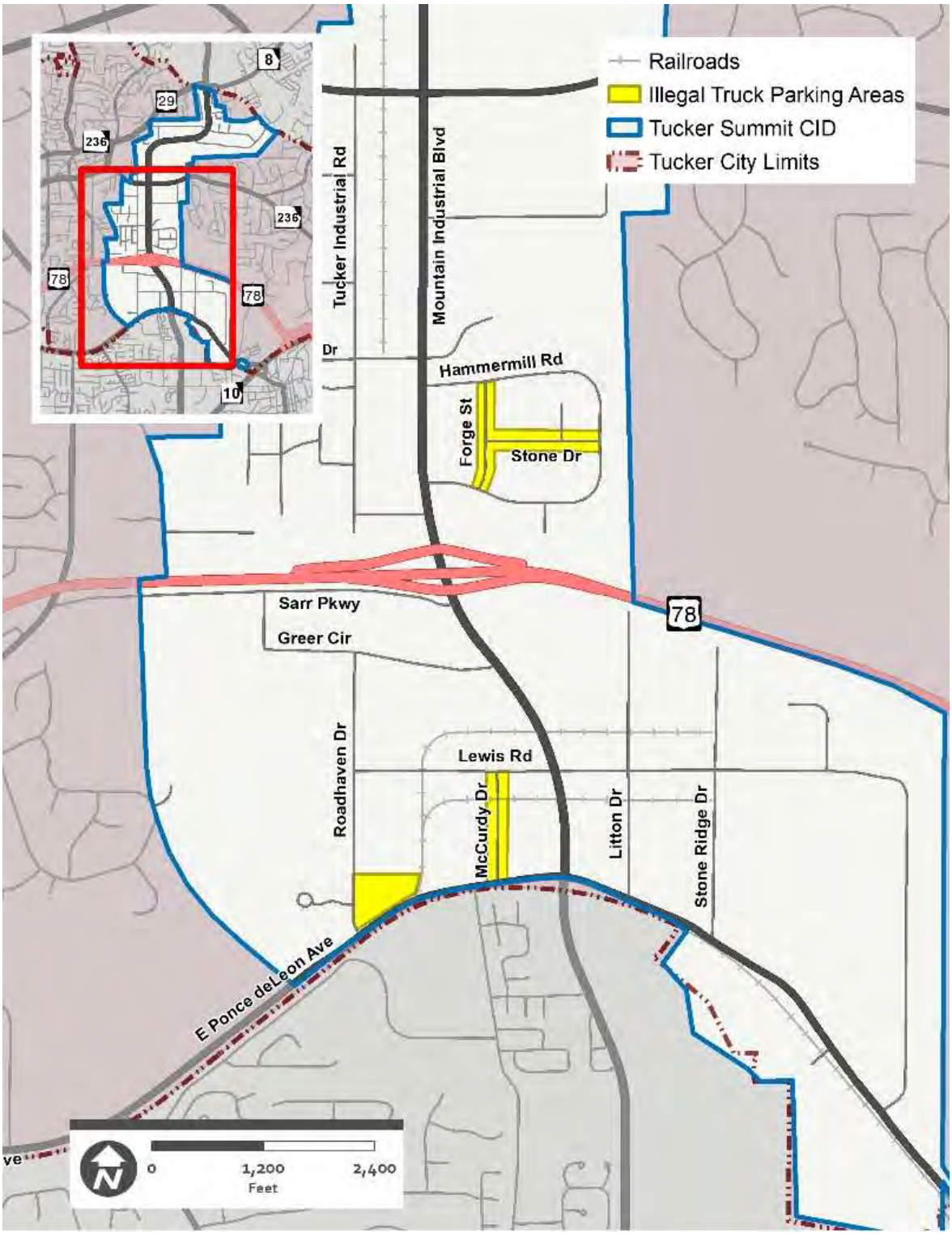
- Truck Restrictions and Related Signage - Given the proliferation of industrial and commercial land uses in conjunction with lack of residential uses within the TSCID, there are no truck restricted routes in the area.
- Alternative Fuel Stations – According to the Department of Energy, the alternative fuel stations in the district include the BP at the corner of Hugh Howell and MIB (Ethanol) and PS Energy located at 1833 Tucker Industrial Road (CNG).
- Intermodal Facilities – There are no significant intermodal facilities in the TSCID.

Figure 20: Freight Network within TSCID and Surrounding Areas



Source: ARC, GDOT, FHWA, USDOT

Figure 21: Areas with Illegal Truck Parking Issues

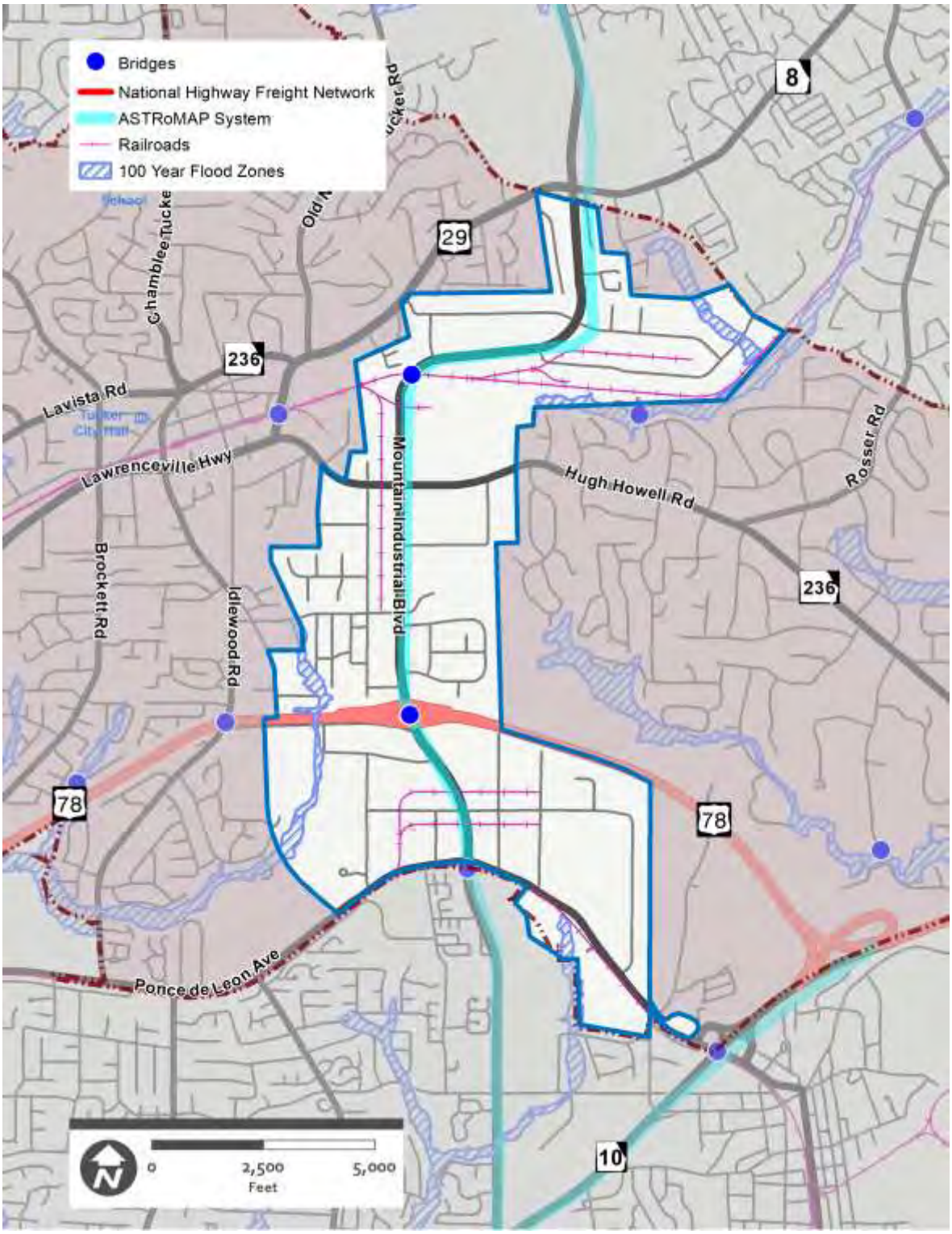


Source: TSCID

4.4 Vulnerable Transportation Assets

Another consideration for the overall network is its vulnerability to disasters. In the TSCID, the primary threat would be flooding, given the fact that Atlanta is not in a coastal area. To assess the vulnerability of key transportation assets, the major facilities throughout the TSCID were compared to flood zones. As shown in Figure 22, all the major roadways are adequately served by bridges where floodplains exist. Facilities potentially prone to flooding based on their proximity to floodplains include the CSX Seaboard line in the northern portion of the TSCID and Royal Woods Parkway, which travels into the Lilburn CID.

Figure 22: Freight Asset Vulnerability to Flooding



Source: Georgia Emergency Management Agency, National Bridge Inventory, ARC

4.5 Origin-Destination Analysis

This section documents the analysis of the origins and destinations of truck trips to and from the TSCID. This analysis helps provide detailed insight into the TSCID's current and future freight activity in order to address transportation planning, traffic operations, and related planning.

4.5.1 Overview of Roadways and Facilities within the TSCID

As discussed previously in this document, the primary roadway facilities in the TSCID are US 78 and Mountain Industrial Boulevard. Other key roadways include Hugh Howell Road, E Ponce de Leon Avenue, and Tucker Industrial Rd. These roadways are key assets for moving freight in and out of the TSCID.

A review of Google Maps identifies several private sector industrial and warehouse-based operations within the TSCID as well. Some of these include:

- Flowers Bakery
- Graphics Packaging
- Clean Harbors Environmental
- Friends of Disabled Adults and Children (FODAC)
- Green Ranger
- House of Cheatham
- Church of Latter-Day Saints
- Macy's
- Pepsico
- Sempert Transportation
- ITW
- Thermopac
- Tool Source Warehouse, Inc.
- Marten Transport
- Coastal Construction Products
- Atlanta Light Bulbs & ALB Energy Solutions
- Star Importers and Wholesalers
- ITW Pro Brands
- RAM Tool Construction Supply
- Acro International Food Distributors
- Southern Refreshment Services
- Preferred Roofing Supply
- Precision Frameworks

In addition to the industrial and warehouse facilities, there are also several commercial facilities within the TSCID that are destinations for supply trucks on a daily basis. Some of these include McDonald's, Waffle House, Valero, Sam's Club, National Tire & Battery, Cook Out, and Wendy's.

4.5.2 Public Outreach Efforts

A public outreach effort to connect with truck drivers, business owners and operators in the TSCID was completed as part of this plan. A total of 15 Stakeholder interviews were conducted with companies and agencies who have an interest in the process and outcomes of the Freight Cluster Plan. Those interviewed included:

Private Sector

Flowers Bakery
Graphic Packaging
Clean Harbors Environmental
Friends of Disabled Adults and Children (FODAC)
Green Ranger
House of Cheatham
Church of Latter-Day Saints
Macy's
Pepsico
Sempert Transportation
UPS
ITW
Thermopac

Public Sector

City of Tucker
DeKalb County

The interviews included both public and private sector and generally gathered input on:

- Freight-related transportation challenges in the study area,
- How their facilities operate and trends in the logistics and supply chain industry that are impacting the freight movement industry and
- Improvements they think could make a difference in the study area.

Several questions from the interviews regarded the origin and destination of operators moving in and out of the TSCID. The questions identified these common themes:

- Incoming trucks typically come from logistics centers in Norcross, Covington, and Chamblee. They also come from distribution centers in Macon, Augusta, and Rome. Additionally, the Port of Savannah and other coast states such as North Carolina, South Carolina, and Florida are popular origins for goods coming into the TSCID area.
- Major roadways utilized for arrival and departure of businesses in the TSCID include US 78, Mountain Industrial Boulevard, Jimmy Carter Boulevard, E. Ponce de Leon Avenue, Hugh Howell Road, Flintstone Drive, Lawrenceville Highway, and Tucker Industrial Road via I-20, I75/85, GA 400, and I-285. Local roads utilized within industrial park areas include Lewis Road, Roadhaven Road, Stone Ridge Drive, Rock Mountain Road, and Goldsmith Street.
- Destinations for trucks leaving the TSCID area include retail areas around the Atlanta Region (mainly DeKalb and Fulton Counties), logistics centers in Doraville, Covington, and Suwannee. Other key destinations include Macon, Augusta, Rome, Brunswick, and the Port of Savannah. Further abroad destinations include eastern states including North Carolina, South Carolina,

Alabama, Florida, Virginia, and New Jersey. The TSCID area also serves some cross-country destinations including California, Indiana, Illinois, Texas, and Arkansas.

4.5.3 Key Findings from the TSCID Origin and Destination Analysis

The origin and destination analysis produced the following key findings:

- There are dozens of private sector industrial, warehouse and commercial facilities within the TSCID boundaries that serve as both origins and destinations for freight traffic.
- There are several key roadways utilized to access businesses in the TSCID for both arriving and departing truck traffic. They include US 78, Mountain Industrial Boulevard, Hugh Howell Road, E Ponce de Leon Ave, and Tucker Industrial Road. Local roads within the TSCID near these businesses also play a large role in the movement of freight to last-mile destinations and in departures to arterials and highways.
- Incoming trucks are primarily coming from regional logistics and distribution centers, but also coming from coastal states and the Port of Savannah.
- Trucks leaving the TSCID primarily serve retail areas around the Atlanta region, but also serve the Port of Savannah, coastal states, and even cross-country destinations as far away as California.

5 Safety (Crash History)

For this Inventory and Assessment, a safety and crash analysis were conducted utilizing crash data retrieved from GDOT's Georgia Electronic Accident Reporting System (GEARS).[50]

5.1 Auto Crashes

Between 2014 and 2018, 2,931 crashes occurred within the TSCID boundaries along non-freeway routes. These crashes are depicted in Figure 23.

Annual totals gradually increased from 468 crashes in 2014 to 682 in 2017 before decreasing to 613 in 2018. Of these 5-year crashes, 278 took place on private property.

The most prevalent crash types in TSCID are rear-end crashes (42.8%) and angle crashes (33.1%). Head-on collisions and sideswipes collectively comprise just under 15% of all crashes. The distribution of all crashes according to crash type in TSCID is shown in Table 23.

Table 23. 2014-2018 TSCID Auto Crashes by Type

Year	Crash Type							Total Crashes
	Angle	Head On	Rear End	Sideswipe-Same Direction	Sideswipe-Opposite Direction	Not A Collision with Motor Vehicle	Not Specified	
2014	141	15	234	33	8	29	8	468
2015	170	12	214	45	5	35	10	491
2016	192	12	297	79	18	52	27	677
2017	253	17	282	64	15	37	14	682
2018	213	16	228	86	12	47	11	613
Total	969	72	1,255	307	58	200	70	2,931
	33.1%	2.5%	42.8%	10.5%	2.0%	6.8%	2.4%	100.0%

Source: GEARS

The severity of crashes has remained steady between 2014 and 2018. Twenty-three percent of all crashes during this five-year period resulted in at least one injury. The number of injury crashes increased between 2014 and 2016 with 120 and 162 crashes for those respective years before a decrease to 135 crashes in 2018. A total of three crashes from 2014 through 2018 involved one or more fatalities. The number of fatal crashes ranged from zero in 2018 to 2 in 2016. These are shown in Table 24 on the following page.

[50] GDOT (2019). Georgia Electronic Accident Reporting System (GEARS). Retrieved from https://www.gearsportal.com/Pages/Public/Home.aspx.

Table 24. 2014-2018 TSCID Auto Crashes by Severity

Year	Severity			Total Crashes
	PDO	Injury	Fatal	
2014	348	120	0	468
2015	368	122	1	491
2016	513	162	2	677
2017	536	146	0	682
2018	478	135	0	613
Total	2,243	685	3	2,931
	77%	23%	0%	100.0%

Source: GEARS

A majority of crashes (82%) occurred in dry conditions. Most crashes (72%) occurred during daylight hours, and 17% of crashes occurred along dark, lighted roadways. Crashes by road surface conditions are shown in Table 25. Crashes by lighting conditions are shown in Table 29.

Table 25. 2014-2018 TSCID Auto Crashes by Road Surface Conditions

Year	Road Surface				Total Crashes
	Dry	Wet	Icy	Other	
2014	409	48	0	11	468
2015	367	112	0	12	491
2016	568	82	0	27	677
2017	577	88	0	17	682
2018	489	108	0	16	613
Total	2,410	438	0	83	2,931
	82%	15%	0%	3%	100.0%

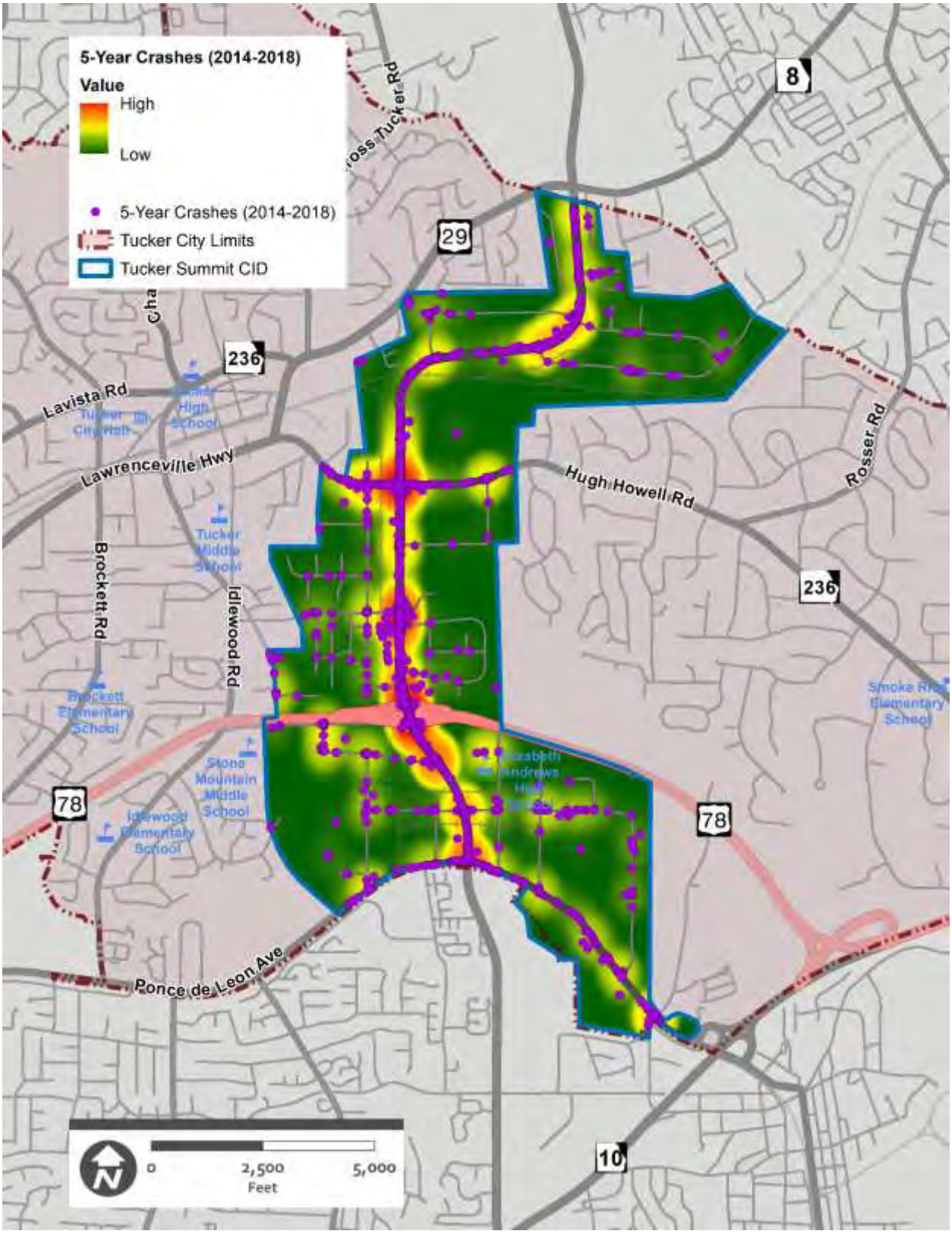
Source: GEARS

Table 26. 2014-2018 TSCID Auto Crashes by Lighting Conditions

Year	Lighting						Total Crashes
	Dawn	Daylight	Dusk	Dark-Lighted	Dark-Not Lighted	Not Specified	
2014	11	343	3	77	26	8	468
2015	7	344	4	96	30	10	491
2016	9	475	12	102	52	27	677
2017	4	510	3	110	42	13	682
2018	13	438	5	100	48	9	613
Total	44	2,110	27	485	198	67	2,931
	2%	72%	1%	17%	7%	2.29%	100.0%

Source: GEARS

Figure 23: Auto Crash Locations



Source: Gresham Smith, GEARS

5.2 Commercial Vehicle Crashes

Between 2014 and 2018, there were 178 crashes involving a tractor-trailer or other type of commercial vehicle within TSCID boundaries along non-freeway routes. A majority of these crashes occurred along Mountain Industrial Boulevard. Among these commercial crashes, one involved a pedestrian but did not result in injury or a fatality. The distribution of commercial crashes between 2014 and 2018 is shown in Figure 24.

Between 2014 and 2018, approximately two-fifths (41%) of commercial crashes in TSCID were angle crashes, one-third (31%) were rear end collisions, and 18% were same-direction sideswipe crashes. Commercial crashes by type are shown in Table 27 and Figure 24.

A total of 30 commercial crashes took place on private property between 2014 and 2018.

Table 27. 2014-2018 TSCID Commercial Crashes by Type

Year	Crash Type							Total Crashes
	Angle	Head On	Rear End	Sideswipe-Same Direction	Sideswipe-Opposite Direction	Not A Collision with Motor Vehicle	Not Specified	
2014	14	2	11	8	1	2	0	38
2015	7	0	3	5	1	1	0	17
2016	15	1	13	7	3	1	1	41
2017	18	0	20	7	1	1	0	47
2018	19	1	8	5	0	2	0	35
Total	73	4	55	32	6	7	1	178
	41.0%	2.2%	30.9%	18.0%	3.4%	3.9%	0.6%	100.0%

Source: GEARS

Between 2014 and 2018, most commercial crashes involved property damage only. Twenty percent of commercial crashes resulted in at least one injury, and no commercial crashes resulted in a fatality. Commercial crashes by severity are shown in Table 28.

Table 28. 2014-2018 TSCID Commercial Crashes by Severity

Year	Severity			Total Crashes
	PDO	Injury	Fatal	
2014	30	8	0	38
2015	11	6	0	17
2016	35	6	0	41
2017	40	7	0	47
2018	27	8	0	35
Total	143	35	0	178
	80%	20%	0%	100.0%

Source: GEARS

Most commercial crashes within TSCID occurred during daylight hours and in dry conditions. Commercial crashes by road surface condition and lighting condition are shown in Table 29 and Table 33, respectively.

Table 29. 2014-2018 TSCID Commercial Crashes by Road Surface Conditions

Year	Road Surface				Total Crashes
	Dry	Wet	Icy	Other	
2014	34	4	0	0	38
2015	13	4	0	0	17
2016	37	3	0	1	41
2017	45	2	0	0	47
2018	27	8	0	0	35
Total	156	21	0	1	178
	88%	12%	0%	1%	100.0%

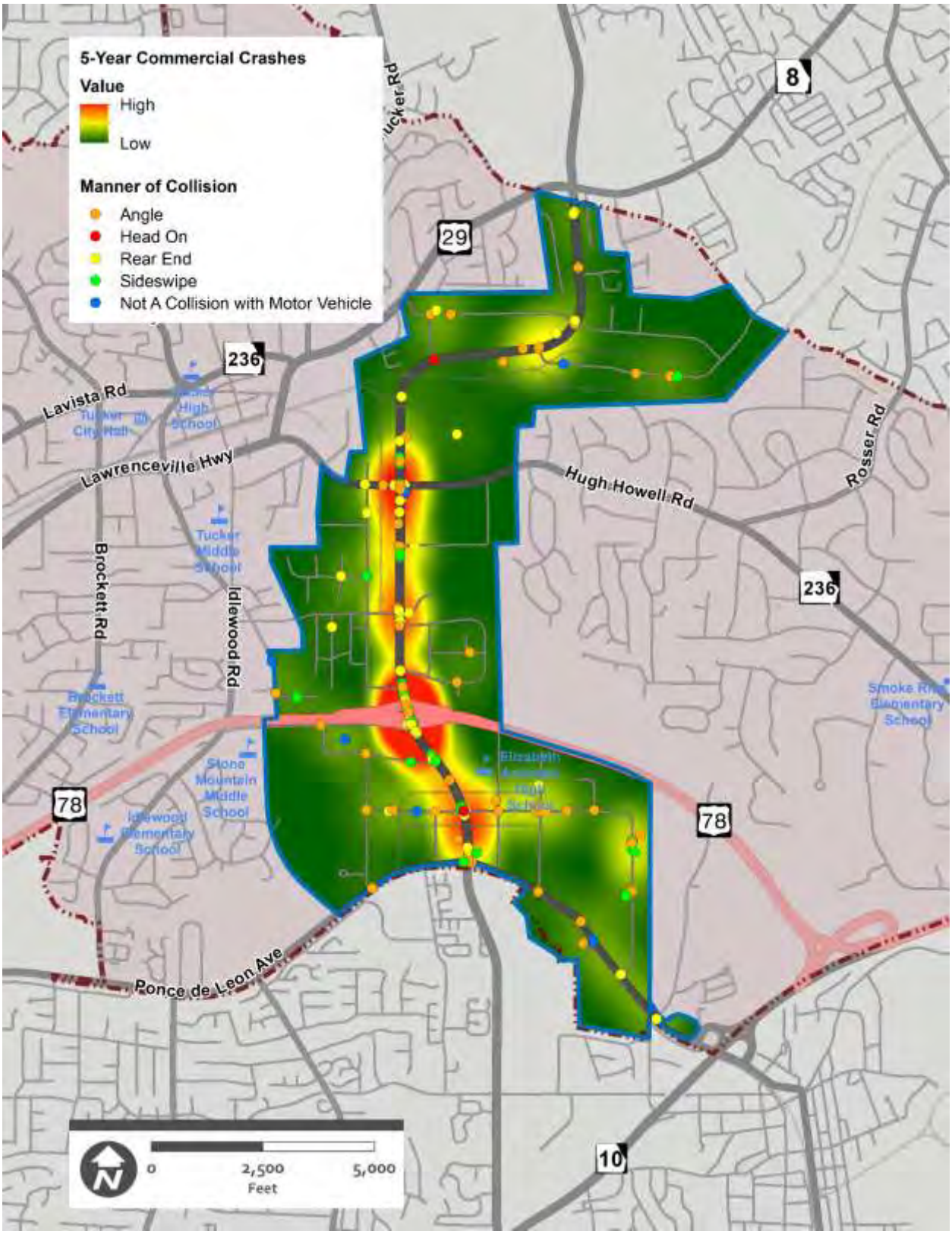
Source: GEARS

Table 30. 2014-2018 TSCID Commercial Crashes by Lighting Conditions

Year	Lighting						Total Crashes
	Dawn	Daylight	Dusk	Dark-Lighted	Dark-Not Lighted	Not Specified	
2014	1	32	1	2	2	0	38
2015	0	10	0	5	2	0	17
2016	0	32	0	7	1	1	41
2017	0	44	0	1	2	0	47
2018	2	29	0	2	2	0	35
Total	3	147	1	17	9	1	178
	2%	83%	1%	10%	5%	0.6%	100.0%

Source: GEARS

Figure 24: Commercial Vehicle Crash Locations



Source: Gresham Smith, GEARS

5.3 Crashes along Mountain Industrial Boulevard

Of the 178 commercial crashes in TSCID from 2014 to 2018, 96 crashes, or 54% of all commercial crashes, occurred along Mountain Industrial Boulevard.[51] The most prevalent crash type was angle crashes (36%), which may be attributed to sight distance issues, intersection geometry, or the need for signal control at unsignalized intersections. The next most prevalent crash type was rear end crashes (32%), which typically occur in congested traffic conditions. The other commercial crashes along Mountain Industrial Boulevard were sideswipes in the same direction (23%), sideswipes in the opposite direction collisions (three percent), and collisions with objects other than a motor vehicle (two percent).

A total of 1,827 crashes, including both commercial and non-commercial vehicles, occurred along Mountain Industrial Boulevard within TSCID between 2014 and 2018. Along the corridor, the majority of crashes were rear end (47%) and angle crashes (32%). The distribution by crash type is shown in Table 31.

Table 31. 2014-2018 Mountain Industrial Blvd. - All Crashes by Type

Year	Crash Type							Total Crashes
	Angle	Head On	Rear End	Sideswipe-Same Direction	Sideswipe-Opposite Direction	Not A Collision with Motor Vehicle	Not Specified	
2014	84	11	154	26	5	8	7	295
2015	122	8	160	35	4	17	10	356
2016	120	5	198	61	11	17	7	419
2017	143	7	205	41	4	10	6	416
2018	117	8	143	54	5	14	0	341
Total	586	39	860	217	29	66	30	1,827
	32.1%	2.1%	47.1%	11.9%	1.6%	3.6%	1.6%	100.0%

Source: GEARS

Between 2014 and 2018, most crashes along Mountain Industrial Boulevard involved property damage only. Twenty-six percent of crashes resulted in at least one injury, and three crashes resulted in a fatality. Crashes by severity are shown in Table 32.

[51] Includes commercial crashes within 50 feet of the corridor, including intersections

Table 32. 2014-2018 Mountain Industrial Blvd. - All Crashes by Severity

Year	Severity			Total Crashes
	PDO	Injury	Fatal	
2014	213	82	0	295
2015	266	89	1	356
2016	302	115	2	419
2017	309	107	0	416
2018	253	88	0	341
Total	1,343	481	3	1,827
	74%	26%	0%	100.0%

Source: GEARS

Most commercial crashes within TSCID occurred during daylight hours and in dry conditions. Crashes along Mountain Industrial Boulevard by road surface condition and lighting condition are shown in Table 33 and Table 34, respectively.

Table 33. 2014-2018 Mountain Industrial Blvd. - All Crashes by Road Surface Conditions

Year	Road Surface				Total Crashes
	Dry	Wet	Icy	Other	
2014	261	27	0	7	295
2015	267	77	0	12	356
2016	357	55	0	7	419
2017	359	50	0	7	416
2018	278	59	0	4	341
Total	1,522	268	0	37	1,827
	83%	15%	0%	2%	100.0%

Source: GEARS

Table 34. 2014-2018 Mountain Industrial Blvd. - All Crashes by Lighting Conditions

Year	Lighting						Total Crashes
	Dawn	Daylight	Dusk	Dark-Lighted	Dark-Not Lighted	Not Specified	
2014	7	212	1	50	18	7	295
2015	5	240	4	79	18	10	356
2016	6	296	7	70	33	7	419
2017	2	311	0	74	23	6	416
2018	9	245	3	61	23	0	341
Total	29	1,304	15	334	115	30	1,827
	2%	71%	1%	18%	6%	2%	100.0%

Source: GEARS

An analysis of all crashes along Mountain Industrial Boulevard indicates that for the five-year period of analysis, the average crash rate along the corridor exceeds statewide averages for total crashes, injury crashes, and fatal crashes, compared to other routes with the same functional classification (urban principal arterial). This is shown in Table 35.

Table 35. Crashes Per 100 Million Vehicle Miles

Year	Crashes			Crashes Per 100 Million Vehicle Miles[52]		
	Total	Injury	Fatal	Total	Injury	Fatal
2014	295	82	0	591 (589)	164 (134)	0.00 (1.15)
2015	356	89	1	714 (583)	178 (138)	2.00 (1.24)
2016	419	115	2	840 (628)	231 (145)	4.01 (1.47)
2017	416	107	0	834 (615)	214 (149)	0.00 (1.24)
2018	341	88	0	684 (-)	176 (-)	0.00 (-)
Total	1,827	481	3			
Average	365	96	1	732 (604)	192 (142)	2.00 (1.28)

Source: GEARS

The higher crash rates along this corridor can be attributed to a number of factors. The most prevalent crash types, angle crashes, are most common at driveways and side streets along Mountain Industrial Boulevard. During field observations, it was noted that trucks sometimes had difficulty navigating tight curb radii at intersections. Sight distance issues were also noted along the corridor, particularly in the northern portion of the corridor. The high prevalence of angle crashes may be attributed to these

[52] The number in parentheses represents the statewide average crash rates for principal arterials in urbanized areas.

deficiencies. The second most prevalent crash type, read end crashes, most frequently occur at major intersections along Mountain Industrial Boulevard. These crashes may be attributed to queuing and traffic congestion at signalized intersections, particularly during the peak periods. Of the three fatalities along the corridor between 2014 and 2018, two were pedestrians, contributing to the high fatal crash rate along the corridor. One of these fatal pedestrian crashes occurred on Mountain Industrial Boulevard just south of Lawrenceville Highway, where no sidewalks are present on either side of the road (see Section 6.1). Further detail on intersection-specific crashes along Mountain Industrial Boulevard can be found in the Traffic Study report for this Freight Cluster Plan.

5.4 Street Lighting

The City of Tucker owns and operates 359 streetlights within TSCID boundaries.[53] These are shown in Figure 25. While there are streetlights along many arterials and collectors, as well as local roads, there are several corridors that lack streetlights. These include:

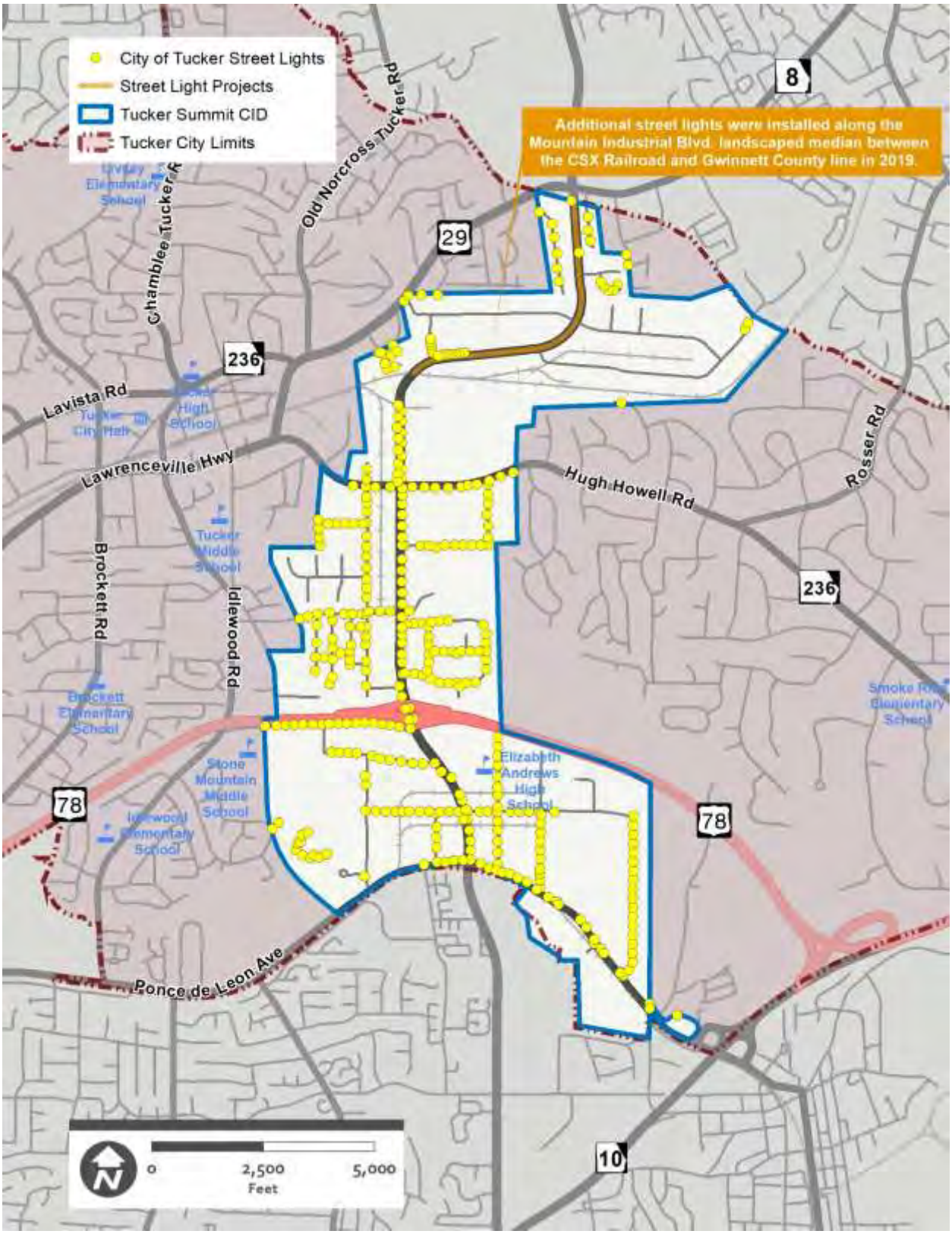
- North Royal Atlanta Drive
- South Royal Atlanta Drive
- Bibb Boulevard
- North Bibb Drive
- South Bibb Drive
- Kilman Drive
- Sentry Drive
- Hirsch Drive
- Lewis Road (between Stoneridge Drive and Rock Mountain Boulevard)
- Roadhaven Drive
- Lewis Way
- East Ponce de Leon Avenue (from western TSCID boundary near Melwood Cemetery to Kelton Drive)

TSCID and Georgia Power are coordinating to develop a district-wide lighting plan, whereby street lights will be installed on side streets in TSCID over the next three to five years. The first phase, which is scheduled for 2021, will include the installation of streetlights along North Royal Atlanta Drive and S. Royal Atlanta Drive.

Of the 178 commercial crashes that occurred in TSCID within the past five years, 26 crashes took place in dark conditions. Those crashes in relation to the City's streetlight network are shown in Figure 26. Crashes occurred in areas of the TSCID with few to no city streetlights, including along Mountain Industrial Boulevard north of the CSX railroad between North Royal Atlanta Drive and South Royal Atlanta Drive and Lewis Road to the east of Mountain Industrial Boulevard. Other crashes in dark conditions occurred in areas well-lit by lighting in the public right-of-way.

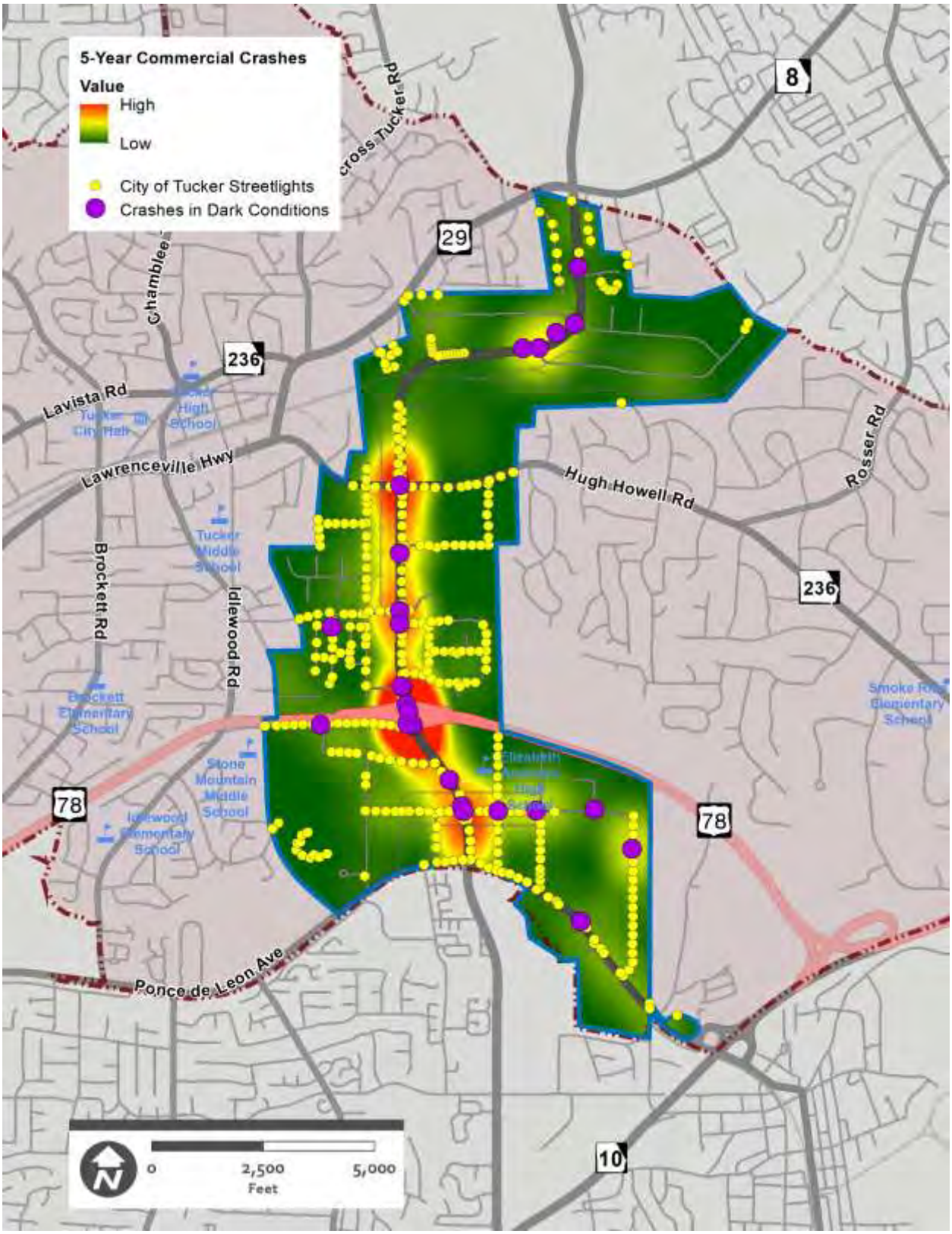
[53] City of Tucker (2020). City of Tucker – Asset Map. Retrieved from https://gis.interdev.com/tucker/tuckerassets/.

Figure 25: Street Lights in TSCID Study Area



Source: Gresham Smith, City of Tucker

Figure 26: Commercial Crashes and Street Lights in TSCID Study Area



Source: Gresham Smith, GEARS, City of Tucker

5.5 Bicycle and Pedestrian Crashes

Bicycle and pedestrian crashes are those that involve a collision with a pedestrian or those using non-motorized forms of transportation such as bicycle or scooters. Between 2014 and 2018, there were a total of 17 bicycle and pedestrian crashes inside TSCID. The location of bicycle and pedestrian crashes in the study area is shown in Figure 27.

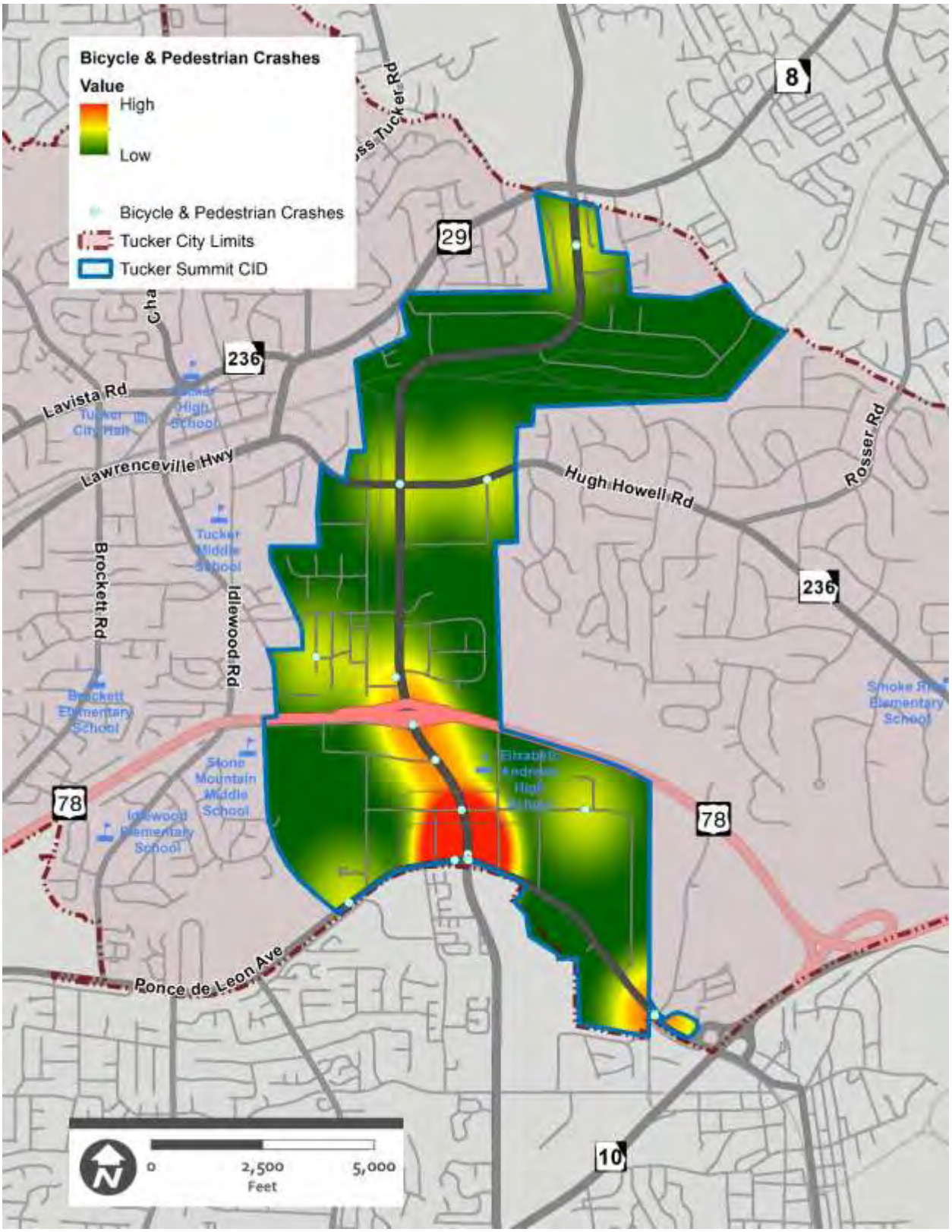
Seventy-one percent of bicycle and pedestrian crashes (12 crashes) resulted in at least one injury, and 12% of crashes (2 crashes) resulted in a fatality. Between 2014 and 2018, the total number of bicycle and pedestrian crashes have more than doubled, and the number of injury crashes has increased threefold. Bicycle and pedestrian crashes by severity are shown in Table 36.

Table 36. 2014-2018 TSCID Bicycle & Pedestrian Crashes by Severity

Year	Severity			Total Crashes
	PDO	Injury	Fatal	
2014	1	2	0	3
2015	0	1	0	1
2016	1	2	2	5
2017	0	1	0	1
2018	1	6	0	7
Total	3	12	2	17
	18%	71%	11%	100.0%

Source: GEARS

Figure 27: Bicycle and Pedestrian Crash Locations



Source: Gresham Smith, GEARS

6 Multimodal Travel and Commute Opportunities

This section of the Inventory and Assessment discusses existing multimodal infrastructure and opportunities for improvement to serve freight and workforce in the TSCID study area.

6.1 Bicycle and Pedestrian Infrastructure

Figure 28 depicts existing sidewalks and bicycle facilities in TSCID.

In terms of sidewalks, Mountain Industrial Boulevard is sparsely covered, especially in areas north of Hugh Howell Road. There are many stretches where neither side of the road has sidewalk coverage or, at best, only one side of the road has a sidewalk. Hugh Howell Road also has little sidewalk coverage within the study area. 2019 City of Tucker sidewalk projects depicted in the study area include filling gaps between Tucker Industrial Boulevard and Mountain Industrial Boulevard and along Elmdale Drive to connect Idlewood Road to Mountain Industrial Boulevard and the freight facilities along that corridor.[54]

The Tucker Tomorrow STMP includes recommendations for sidewalk projects assigned to three tiers based on need and prioritization. Tier 1 projects are short-term, Tier 2 projects are mid-term, and Tier 3 are long-term projects. There are eight Tier 1 sidewalk projects and two Tier 3 sidewalk projects in the study area, located along Mountain Industrial Boulevard and Hugh Howell Road. These planned sidewalk projects will help improve multimodal connectivity to and within TSCID for the local workforce.[55]

Table 37. Tiered Sidewalk Projects from Tucker Tomorrow STMP

Project ID	Corridor	From	To	Length (ft)	Tier
S-29-A/S 29-B	Mountain Industrial Blvd.	North of 2301 Mountain Industrial Blvd.	Hugh Howell Rd. (SR 236)	3,680	1
S-42	Mountain Industrial Blvd.	Northern City Limit/Gwinnett County Line	CSX Railroad	6,607	1
S-11	Hugh Howell Rd.	Lawrenceville Hwy.	Tucker Industrial Blvd.	2,138	1
S-43	Mountain Industrial Blvd.	Northern City Limit/Gwinnett County Line	2530 Mountain Industrial Blvd.	6,953	1
S-26	Mountain Industrial Blvd.	Hammermill Rd.	Lewis Rd.	3,364	1
S-13	Hugh Howell Rd. (SR 236)	Mountain Industrial Blvd.	Rosser Rd.	7,062	1
S-27	Mountain Industrial Blvd.	Hugh Howell Rd.	Elmdale Dr.	2,789	1

[54] City of Tucker (2020). City of Tucker – Asset Map. Retrieved from https://gis.interdev.com/tucker/tuckerassets/.
[55] City of Tucker (2019). Tucker Tomorrow Strategic Transportation Master Plan, Appendix A. Retrieved from https://www.tuckerga.gov/document_center/Plans%20&%20Studies/Tucker%20Strategic%20Transportation%20Master%20Plan%209-10-2019.pdf.

S-44	Mountain Industrial Blvd.	Tuckerstone Pkwy.	CSX Railroad	544	1
S-28	Mountain Industrial Blvd.	Lewis Rd.	1600 Mountain Industrial Blvd.	750	3
S-10	E. Ponce de Leon Ave.	Juliette Rd.	Eastern City Limit	905	3

Source: Tucker Tomorrow STMP

The Tucker Tomorrow STMP also includes three bicycle projects along local roads south of US 78. These are included in Table 38.[56]

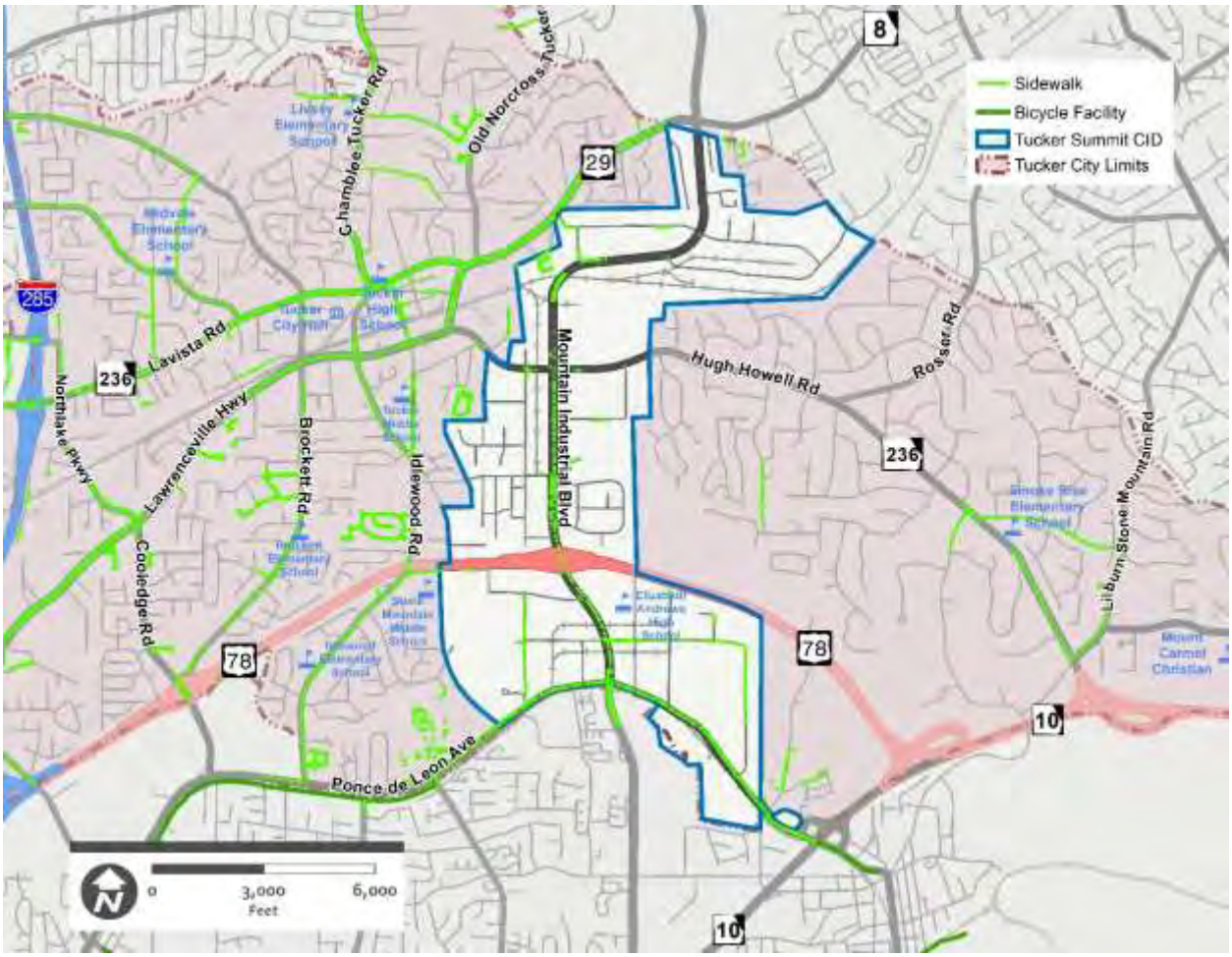
Table 38. Planned Bicycle Projects in TSCID Study Area

Project ID	Project Name	Road	Type
B-5	Roadhaven Dr. Shared Lane	Roadhaven Dr.	Shared Lane
B-6	Lewis Rd. Buffered Bike Lane or Bike Lane	Lewis Rd.	Bike Lane (5') or Buffered Bike Lane (4')
B-7	Litton Dr. Shared Lane	Litton Dr.	Shared Lane

Source: Tucker Tomorrow STMP

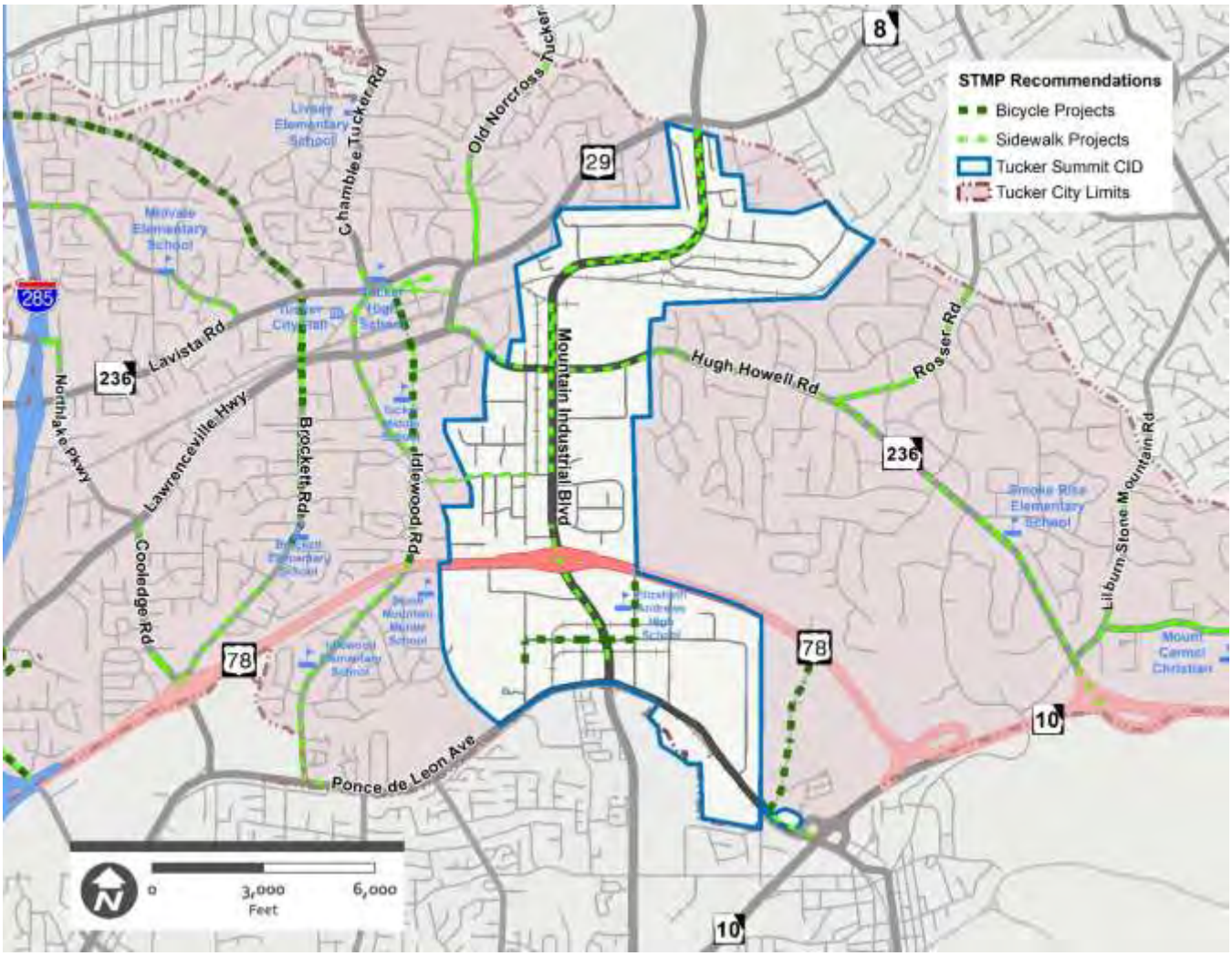
[56] City of Tucker (2019). Tucker Tomorrow Strategic Transportation Master Plan, p. 34. Retrieved from https://www.tuckerga.gov/document_center/Plans%20&%20Studies/Tucker%20Strategic%20Transportation%20Master%20Plan%209-10-2019.pdf.

Figure 28: Existing Sidewalks and Pedestrian Facilities



Source: Gresham Smith, City of Tucker

Figure 29: Planned Sidewalks and Pedestrian Facilities



Source: Gresham Smith, City of Tucker

6.2 MARTA Service Characteristics

Transit coverage in TSCID is provided exclusively by the Metropolitan Atlanta Rapid Transit Authority (MARTA). This section provides insight into the level of coverage available to and from the TSCID study area.

6.2.1 Routes

Three MARTA bus routes, routes 75, 120, and 121, serve the TSCID study area.[57]

[57] Metropolitan Atlanta Rapid Transit Authority (2019). Bus Routes and Schedules. Retrieved from https://www.itsmarta.com/bus-schedules.aspx.

Table 39. MARTA Routes Within TSCID

Route Number	Route Name	Destination
75	Lawrenceville Highway	From Avondale MARTA station to Mountain Industrial Boulevard
120	East Ponce de Leon Avenue	From Avondale MARTA Station to Goldsmith Park and Ride Lot
121	Memorial Drive/North Hairston Road	From Kensington MARTA Station to N. Royal Atlanta Drive and/or Hugh Howell Road

Source: MARTA

Route 75 serves the Lawrenceville Highway corridor from the Avondale MARTA Station to Mountain Industrial Boulevard with North DeKalb Mall as a major point of interest. Specific roads the route utilizes in the study area are North Royal Atlanta Drive, Mountain Industrial Boulevard, and Tuckerstone Parkway. This existing route was identified to have unmet needs in the DeKalb County Transit Master Plan such as, expansion of local service and circulators, frequency of service, higher capacity buses, extended hours of operation, improved shelters and more rider amenities, and first/last-mile infrastructure improvements.[58]

Route 120 serves the East Ponce de Leon Avenue corridor from the Avondale MARTA Station to Goldsmith Park and Ride with the Your DeKalb Farmers Market, Elizabeth Andrews High School, DeKalb County Board of Education, and Tahoe Village Shopping Center as major points of interest. Specific roads the route utilizes in the study area include East Ponce de Leon Avenue. Additionally, Mountain Industrial Boulevard is utilized during certain bus rides to provide access to the DeKalb County Board of Education facilities.[59]

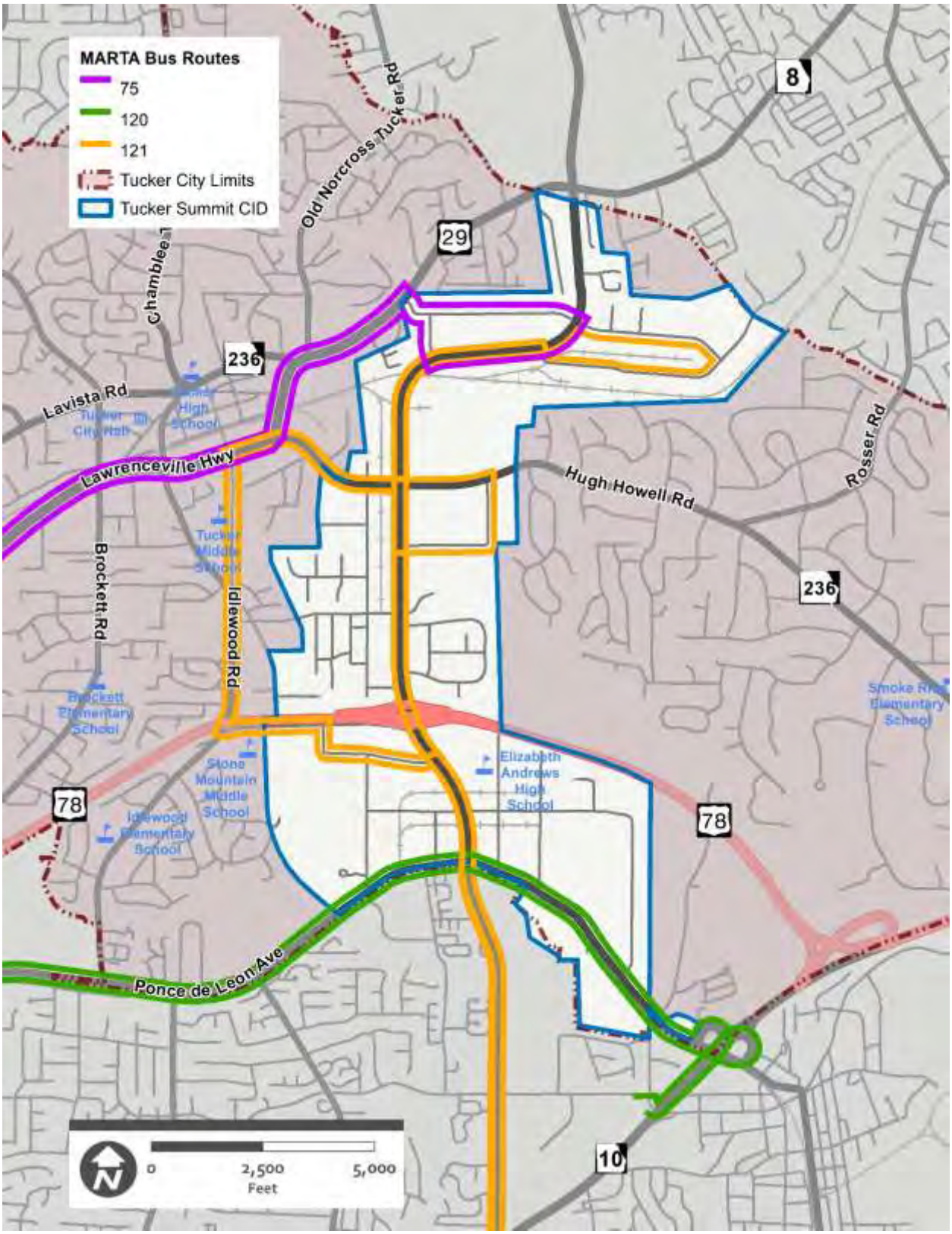
Route 121 serves the Memorial Drive and North Hairston Road corridors from the Kensington MARTA Station to the Royal Atlanta Industrial Park with the DeKalb County Sherriff's Office and Jail as major points of interest. Specific roads the route utilizes in the study area include Mountain Industrial Boulevard, North Royal Atlanta Drive, and South Royal Atlanta Drive. This route was named as an unmet need in the DeKalb County Transit Master Plan.[60]

6.2.2 Shelters and Amenities

There are approximately 88 MARTA bus stops inside the TSCID boundaries, shown in Figure 31. Figure 30 shows bus routes connecting the TSCID to the rest of the metropolitan Area. Route 75 connects the north end of the TSCID to the Avondale MARTA station by way of Lawrenceville Highway and DeKalb Industrial Way. Route 121 runs a loop around the north end of the CID, with a terminus at the MARTA Kensington station by way of Memorial Drive, North Hairston Road, and Mountain Industrial Boulevard. Route 120 runs from Elizabeth Andrews High School to Avondale MARTA station, by way of Ponce de Leon Avenue.

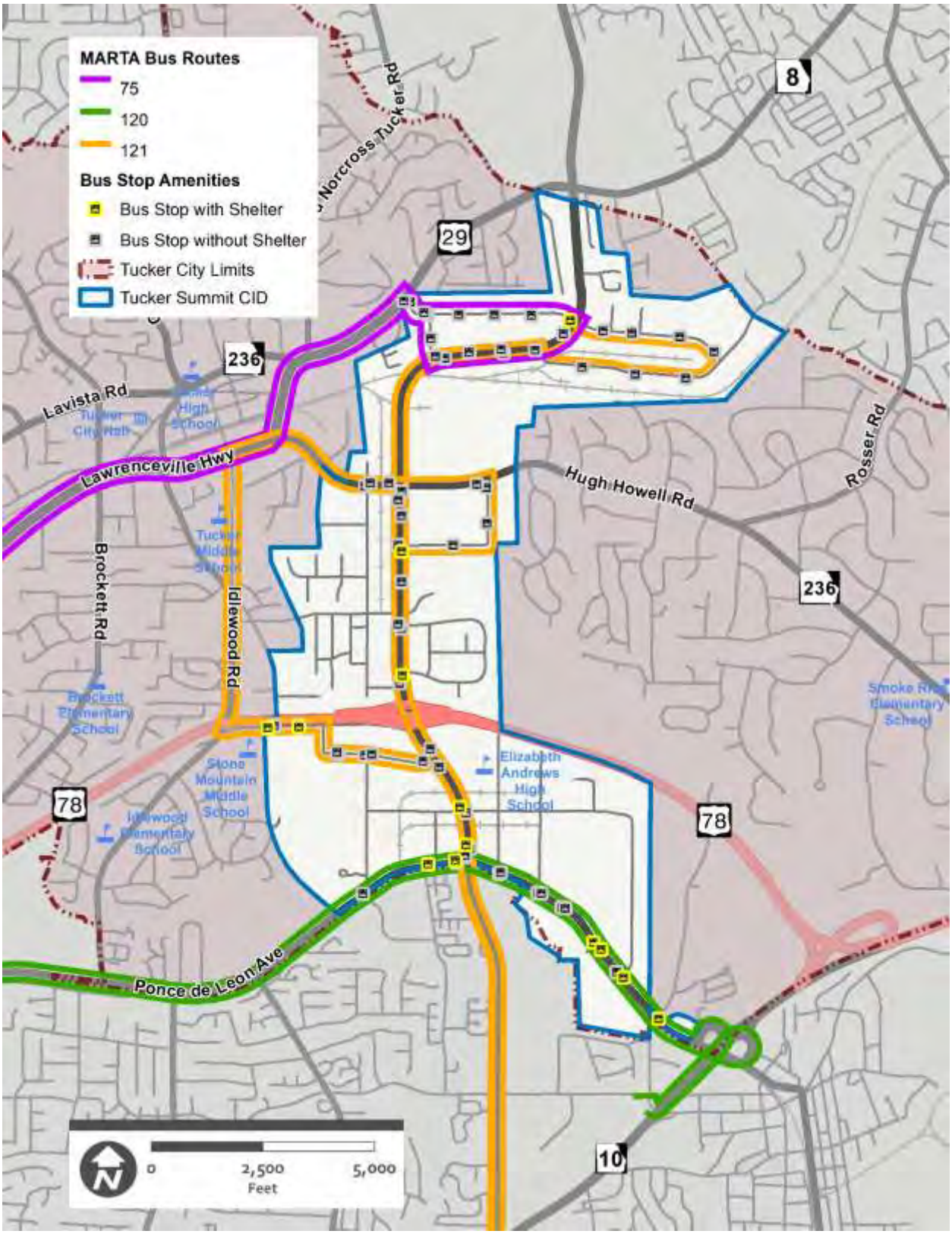
[58] MARTA (2019). Route 75 – Lawrenceville Highway. Retrieved from https://www.itsmarta.com/75.aspx.
[59] MARTA (2019). Route 120 – East Ponce De Leon Avenue. Retrieved from https://www.itsmarta.com/120.aspx.
[60] MARTA (2019). Route 121 – Memorial Drive/N. Hairston Road. Retrieved from https://www.itsmarta.com/121.aspx.

Figure 30: MARTA Bus Routes



Source: Gresham Smith, ARC, MARTA

Figure 31: MARTA Bus Routes w Shelters and Amenities



Source: Gresham Smith, ARC, City of Tucker, MARTA

Fourteen of these bus stops currently have shelters:[61]

- Mountain Industrial Boulevard @ North Royal Atlanta Drive (Southbound)
- Mountain Industrial Boulevard @ Granite Drive (Northbound)
- Mountain Industrial Boulevard @ Hammermill Road (Northbound)
- Sarr Road @ Idlewood Road (Eastbound)
- Sarr Road @ Macy's eastern entrance – 4401 Sarr Parkway (Eastbound)
- Mountain Industrial Boulevard @ Lewis Road (Southbound)
- Mountain Industrial Boulevard @ East Ponce de Leon Avenue (Southbound) – in addition to a bus shelter, this bus stop includes a dedicated pull-out, which will be utilized for future planned bus rapid transit (BRT) service
- East Ponce de Leon Avenue @ Mountain Industrial Boulevard (Westbound)
- East Ponce de Leon Avenue @ Mountain Industrial Boulevard (Eastbound)
- East Ponce de Leon Avenue @ Kelton Drive (Westbound)
- East Ponce de Leon Avenue @ Richardson Street (Westbound)
- East Ponce de Leon Avenue @ Juliette Road (Westbound)
- East Ponce de Leon Avenue @ Rock Mountain Boulevard (Eastbound)
- East Ponce de Leon Avenue @ Rock Mountain Boulevard (Westbound)

As of early 2019, nearly all bus stops were determined to be in good condition; the exception is the bus stop at N. Royal Atlanta Drive and S. Royal Atlanta Drive, which was documented as fair condition. Some of these locations were on a potential list for new bus stop amenities to be installed by MARTA, including shelters and benches. Those locations are listed below including those that were built in 2019:[62]

- East Ponce de Leon Avenue at Juliette Road **(built in 2019)**
- Hugh Howell Road at Flintstone Drive
- Mountain Industrial Boulevard at East Ponce de Leon Avenue **(built in 2019)**
- Mountain Industrial Boulevard at Greer Circle
- Mountain Industrial Boulevard at Hirsch Drive
- Mountain Industrial Boulevard at Hammermill Road
- Mountain Industrial Boulevard at North Royal Atlanta Drive
- North Royal Atlanta Drive at Commerce Place **(built in 2019)**
- North Royal Atlanta Drive at Lawrenceville Highway
- Tuckerstone Parkway at Mountain Industrial Boulevard **(built in 2019)**
- Sarr Parkway at Macy's western entrance

There is one park-and-ride lot located near the study area. The Goldsmith Park & Ride in Stone Mountain, located at 5530 Central Drive, is served by MARTA Route 120.[63]

[61] City of Tucker (2020). City of Tucker – Asset Map. Retrieved from https://gis.interdev.com/tucker/tuckerassets/ Also, input from Larry Kaiser in May 2020.
[62] Tucker Summit CID (2019). Tucker Summit CID December 2019 Newsletter. Retrieved from https://www.tuckersummitcid.com/news/newsletters/tucker-summit-cid-december-2019-newsletter/.
[63] MARTA (2019). Route 120 – East Ponce De Leon Avenue. Retrieved from https://www.itsmarta.com/120.aspx.

6.2.3 Boardings and Alightings

Between August and December 2019, among the 88 MARTA bus stops within TSCID, 729 bus riders embarked and 643 bus riders disembarked during weekdays, representing a total ridership of 1,373 riders during the weekday period. Table 43 shows the ten most frequently utilized bus stops during weekdays and are visually depicted in Figure 32.

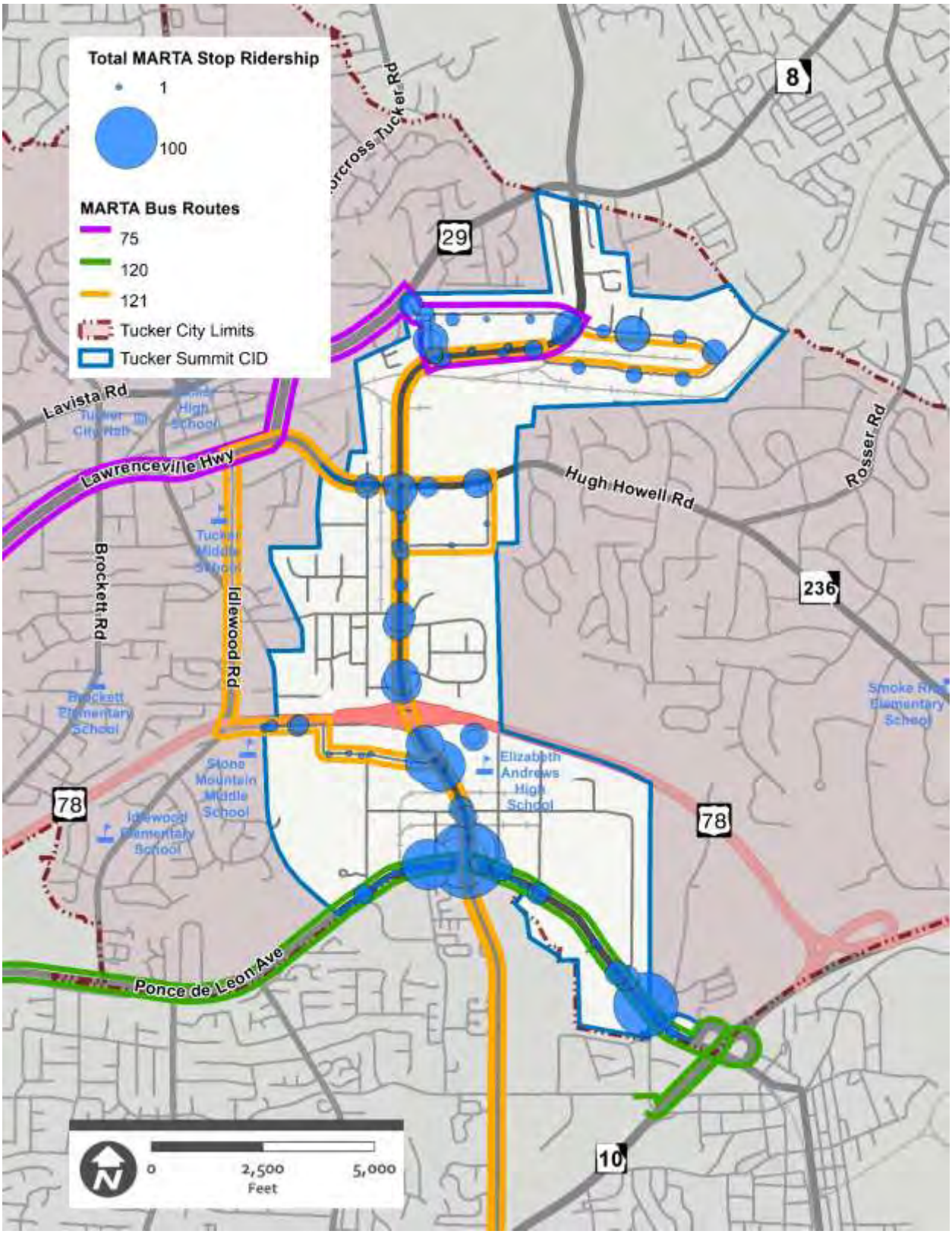
Table 40. Top MARTA Stops by Total Ridership - August 17, 2019 thru December 06, 2019

Route	Direction	Rank	Stop Name/Location	Ons	Offs	Total
121	Southbound	1	Mountain Industrial Blvd. @ E. Ponce de Leon Ave.	86	67	153
120	Westbound	2	E. Ponce de Leon Ave. @ 5830	103	6	109
121	Northbound	3	Mountain Industrial Blvd. @ E Ponce de Leon Ave.	35	43	77
120	Eastbound	4	E. Ponce de Leon Ave. @ N. Hairston Rd.	12	60	72
121	Southbound	5	Mountain Industrial Blvd. @ Greer Cir.	62	6	68
120	Westbound	6	E. Ponce de Leon Ave @ Kelton Dr.	62	5	67
121	Northbound	7	Greer Cir. @ Mountain Industrial Blvd.	5	42	48
121	Southbound	8	Mountain Industrial Blvd. @ Hirsch Dr.	37	5	42
121	Northbound	9	Mountain Industrial Blvd. @ Greer Cir.	2	35	37
121	Northbound	10	N Royal Atlanta Dr. @ Commerce Pl.	0	34	34
***Boarding numbers rounded to nearest whole number**						

Source: MARTA

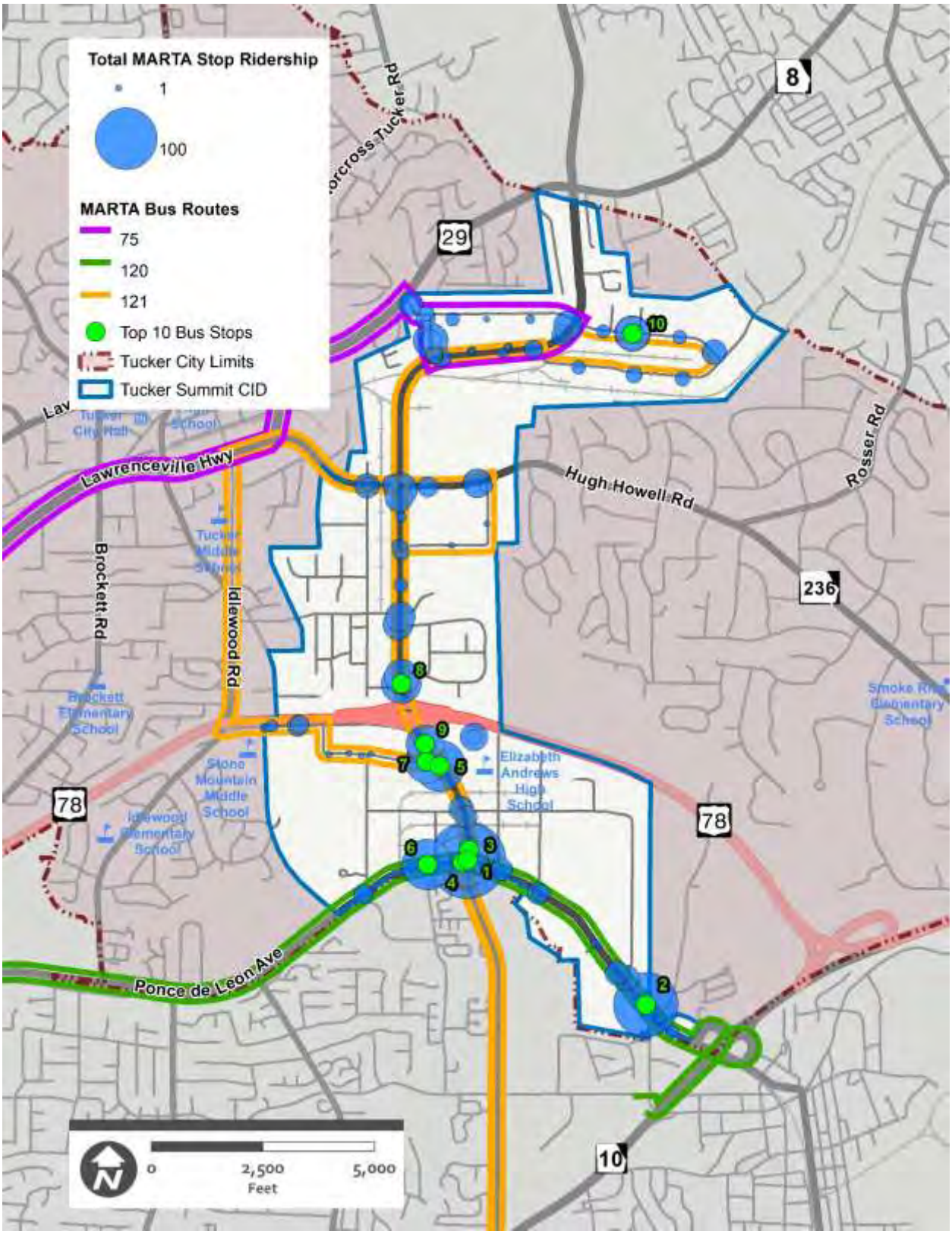
The MARTA stop with the highest ridership within the study area is the southbound stop at the intersection of Mountain Industrial Boulevard and East Ponce de Leon Avenue with an average of 153 boardings and alightings. This location is in close proximity to numerous warehouses to the south of US 78. The bus stop at 5830 East Ponce de Leon Avenue has the second highest ridership within the study area with 109 riders utilizing the stop. This station is located at the front of the Stone Mountain Industrial Park. Three of the top five bus stops are located at the intersection of East Ponce de Leon Ave and Mountain Industrial Boulevard/North Hairston Road. Another location with multiple bus stops appearing in Table 40 is the intersection of Mountain Industrial Boulevard with Greer Circle to the immediate south of the junction with US 78. While most of the top ten stops are located to the south of US 78, another stop at North Royal Atlanta Drive and Commerce Place in the northern section of the study area had 34 riders during this period of time.

Figure 32: Total MARTA Ridership in TSCID



Source: Gresham Smith, ARC, MARTA

Figure 33: Top 10 MARTA Bus Stops by Boardings and Alightings in TSCID



Source: Gresham Smith, ARC, MARTA

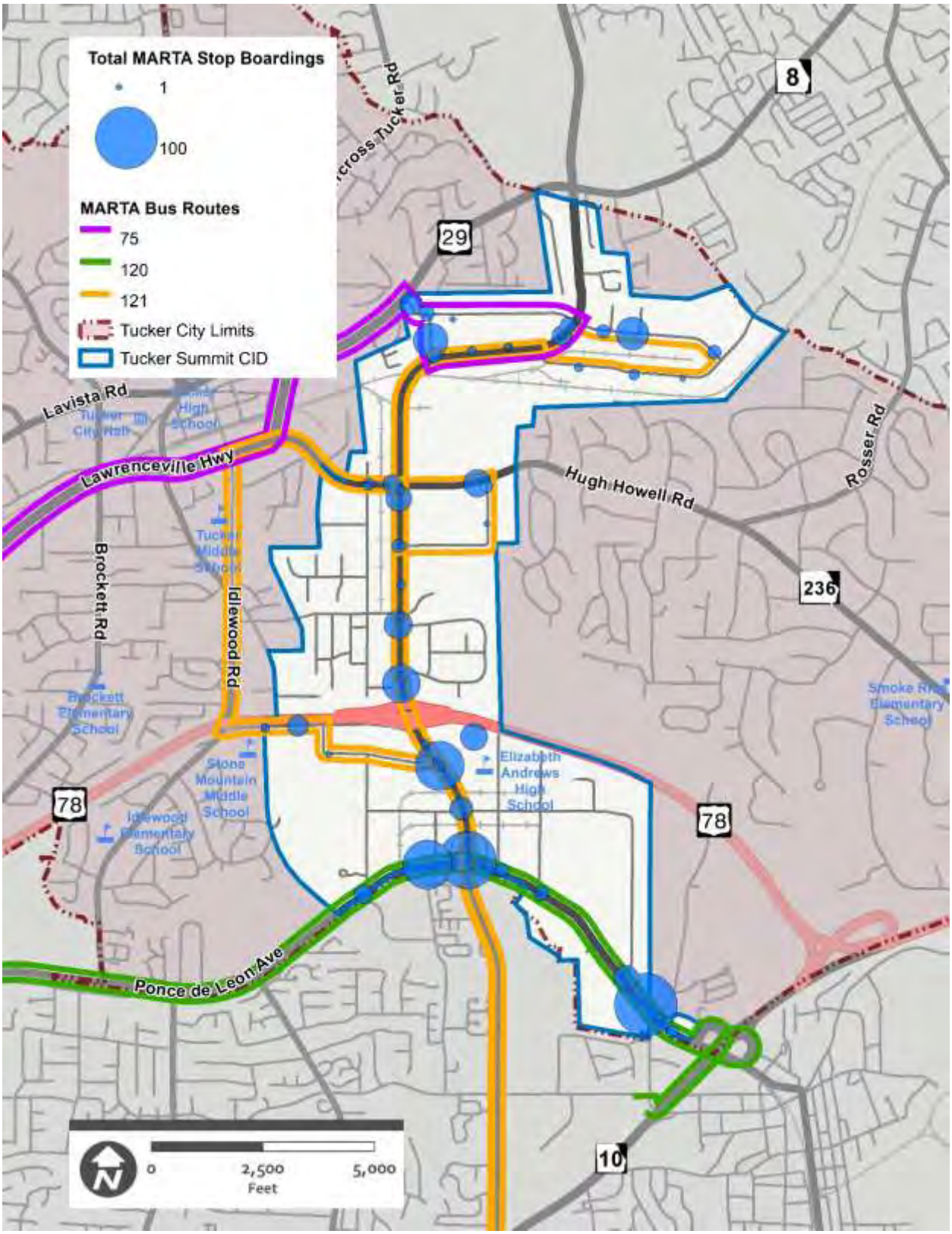
Table 41. Top MARTA Stops by Boardings (Ons) - August 17, 2019 thru December 06, 2019

Route	Direction	Rank	Stop Name/Location	Ons	Offs	Total
120	Westbound	1	E. Ponce de Leon Ave. @ 5830 E. Ponce de Leon Ave.	103	6	109
121	Southbound	2	Mountain Industrial Blvd. @ E. Ponce de Leon Ave.	86	67	153
120	Westbound	3	E. Ponce de Leon Ave. @ Kelton Dr.	62	5	67
121	Southbound	4	Mountain Industrial Blvd. @ Greer Cir.	62	6	68
121	Southbound	5	Mountain Industrial Blvd. @ Hirsch Dr.	37	5	42
121	Northbound	6	Mountain Industrial Blvd. @ E. Ponce de Leon Ave.	35	43	77
75	Southbound	7	Tuckerstone Pkwy. @ Mountain Industrial Blvd.	31	2	32
121	Southbound	8	N. Royal Atlanta Dr. @ Commerce Pl.	28	2	30
121	Southbound	9	Mountain Industrial Blvd. @ Hammermill Rd.	21	3	24
121	Southbound	10	Hugh Howell Rd. (SR 236) @ Flintstone Dr.	20	1	21
***Boarding numbers rounded to nearest whole number**						

Source: MARTA

The MARTA stop with the highest number of boardings within the TSCID is the westbound stop at the intersection of East Ponce de Leon Avenue at the Stone Mountain Industrial Park serving Route 120 with 103 riders boarding. The southbound bus stop for Route 121 at Mountain Industrial Boulevard and East Ponce de Leon Avenue has the second highest of boardings with 86 riders. Six of the top ten stops for boardings are located at or along Mountain Industrial Boulevard. A total of 28 people boarded Route 121 at North Royal Atlanta Drive and Commerce Place, while 20 people boarded at the stop at Hugh Howell Road and Flintstone Drive. Both of those stops serve multiple warehouses in the vicinity.

Figure 34: Top MARTA Stops by Boardings (Ons) in TSCID



Source: Gresham Smith, ARC, MARTA

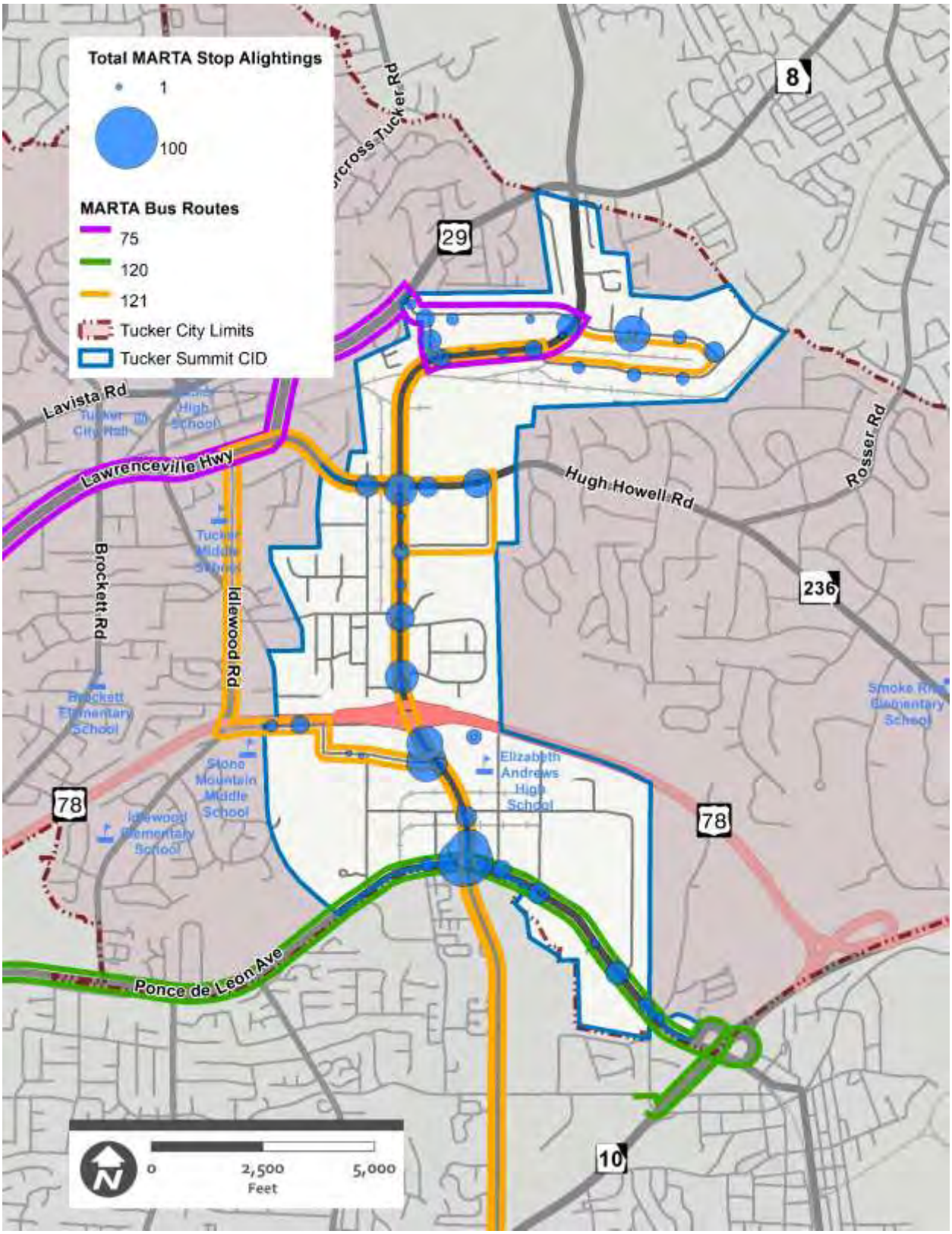
Table 42. Top MARTA Stops by Alightings (Offs) - August 17, 2019 thru December 06, 2019

Route	Direction	Rank	Stop Name/Location	Ons	Offs	Total
121	Southbound	1	Mountain Industrial Blvd. @ E. Ponce de Leon Ave.	86	67	153
120	Eastbound	2	E. Ponce de Leon Ave. @ N. Hairston Rd.	12	60	72
121	Northbound	3	Mountain Industrial Blvd. @ E. Ponce de Leon Ave.	35	43	77
121	Northbound	4	Greer Cir. @ Mountain Industrial Blvd.	5	42	48
121	Northbound	5	Mountain Industrial Blvd. @ Greer Cir.	2	35	37
121	Northbound	6	N. Royal Atlanta Dr. @ Commerce Pl.	0	34	34
121	Northbound	7	Mountain Industrial Blvd. @ Hammermill Rd.	3	29	32
121	Northbound	8	Mountain Industrial Blvd. @ Hugh Howell Rd. (SR 236)	2	28	30
121	Northbound	9	Hugh Howell Rd. (SR 236) @ Flintstone Dr.	0	22	22
121	Northbound	10	Mountain Industrial Blvd. @ Roger Marten Way	2	21	23
***Boarding numbers rounded to nearest whole number**						

Source: MARTA

The MARTA stop with the highest number of alightings within the study area is the southbound stop at the intersection of Mountain Industrial Boulevard and East Ponce de Leon Avenue with 67 riders. The eastbound bus stop on East Ponce de Leon Avenue at the same intersection has alightings of 60 riders. Other intersections along Mountain Industrial Boulevard that experience a high number of riders exiting buses include stops at Greer Circle, Hammermill Road, Hugh Howell Road, and Roger Martin Way/Elmdale Drive.

Figure 35: Top MARTA Stops by Alightings (Offs) in TSCID



Source: Gresham Smith, ARC, MARTA

6.2.4 Accessibility to Transit

From a workforce access and safety standpoint, many of the top destination MARTA stops are not served by bus stop amenities, sidewalks, and street lighting; however, this is slated to change through collaboration between TSCID and MARTA to install amenities at heavily utilized bus stops. Many of these stops are reflected in the bulleted list in Section 6.2.2. Gwinnett County Transit (GCT) riders who disembark at the GCT bus stop at Mountain Industrial Boulevard and Lawrenceville Highway (US 29/SR 8) have been observed walking along the shoulder of Mountain Industrial Boulevard, where no sidewalks exist, in order to reach the MARTA bus stop at Mountain Industrial Boulevard at North Royal Atlanta Drive to transfer to the MARTA bus system. The City of Tucker and TSCID will continue to prioritize sidewalk improvements along MARTA routes in order to create safer facilities for the local workforce and others who travel by foot and transit within TSCID. Finally, median lighting along Mountain Industrial Boulevard will make the corridor safer and appealing to pedestrians who utilize transit, especially in the Royal Atlanta Industrial Park and other areas to the north of the CSX Railroad overpass along Mountain Industrial Boulevard.

6.3 Commute (TDM) Services

6.3.1 Georgia Commute Options

GCO is a program to assist commuters and employers to reduce traffic congestion and improve air quality by reducing the miles commuters drive alone. GCO is provided within the metro Atlanta region and includes the study area as part of a larger area with poor air quality not meeting federal standards. Federal transportation funds provide for these programs as a means to minimize commuting impacts through TDM strategies like carpooling, vanpools, transit, and teleworking. The program can assist TSCID employers and workers with setting up shared carpools/vanpools and matching participants. Also, it provides financial incentives for a commuter to try the program for one or more days a week. For program participants, GCO also provides a Guaranteed Ride Home for registered commuters. Participants must register at https://gacommuteoptions.com/ in advance to receive program benefits.[64]

6.3.2 GRTA

Commuter buses are provided through the Georgia Regional Transportation Authority (GRTA), which administers Xpress bus services with routes to Downtown and Midtown Atlanta. No park-and-ride facilities exist within TSCID; the closest facility is the Stone Mountain Park and Ride facility (1475 East Park Place), which serves Xpress Route 419, connecting commuters to the Civic Center MARTA station for access to surrounding destinations.[65]

6.3.3 Private Transportation Providers

In addition to TDM strategies and services, Uber and Lyft provide rideshare options for residents and workers in the study area, though these prices vary by time of day, distance, and overall demand.

[64] Georgia Commute Options (2019). Georgia Commute Options. Retrieved from https://gacommuteoptions.com/.
[65] Georgia Regional Transportation Authority (2019). Xpress Routes. Retrieved from https://www.xpressga.com/routes/.

7 Land Use and Market Analysis

7.1 Overview of Market Area Real Estate Inventory and Trends

This section documents the existing real estate and economic conditions that characterize the TSCID and its environs.

7.1.1 TSCID Market Area Real Estate Inventory Overview

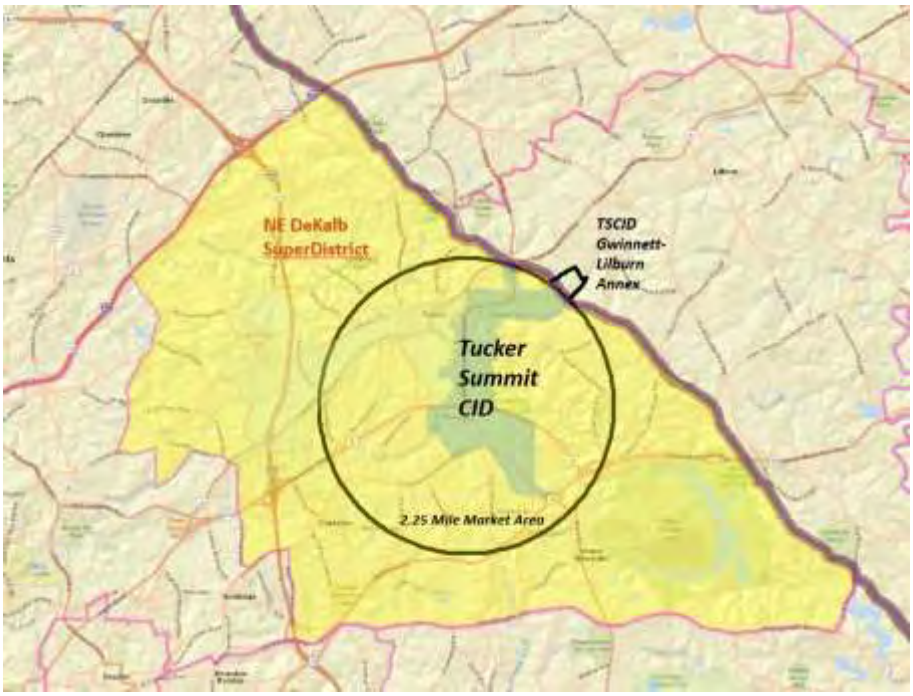
The assessment considers the TSCID area based on several geographies, which are shown in Figure 36:

- **The TSCID**: defined by the current CID boundary
- **The TSCID Lilburn Gwinnett Annex**: This is the small area to the northeast of the TSCID that, while technically in Lilburn and Gwinnett County, is accessible only through the TSCID, and thus operates as a part of the TSCID's economic ecosystem.
- **The TSCID Market Area**: defined as a 2.25-mile radius from US-78 and Mountain Industrial Blvd. This market area was selected as it captures all of the TSCID and its larger market environment while excluding areas with substantially different commercial characteristics that do not significantly contribute to the overall TSCID economy, most notably the Northlake Commercial Area. The 2.25 Market area also excludes Gwinnett County.
- **The Northeast DeKalb Superdistrict**: The Atlanta Regional Commission has divided the Atlanta Metropolitan Region into 78 "Superdistricts" for planning and forecasting purposes. The TSCID and market area lie completely within the "Northeast DeKalb" Superdistrict.
- **DeKalb County**

Within the Land Use and Market Analysis section, these geographies are used as follows:

- Detailed commercial real estate inventory data is compiled for the TSCID, the TSCID Annex, and the TSCID Market Area.
- Broader Real Estate inventory data is compiled for the TSCID, the TSCID Market Area, and DeKalb County.
- Comparative real estate trend data (rents and vacancies) are compiled for the TSCID and DeKalb County.
- Workforce Characteristics (local residents who are likely to work in the TSCID) are compiled for the TSCID Market Area.
- Employment characteristics (where jobs are located) are compiled for the TSCID, the TSCID Market Area and DeKalb County.
- Employment Forecasts are compiled for the Northeast DeKalb Superdistrict and DeKalb County
- Catalyst and redevelopment sites are identified within the TSCID.

Figure 36: TSCID Planning Geographies



Source: Bleakly Advisory Group, ARC, ESRI

7.1.2 Inventory of Commercial Real Estate by Buildings and Square Feet

The following tables show the commercial real estate inventory of commercial buildings located in:

- TSCID
- The TSCID Lilburn Gwinnett Annex
- The TSCID Market Area

Table 43. TSCID Commercial Real Estate Inventory

	Existing		Under Renovation		Under Construction		Proposed	
	Bldgs.	SF	Bldgs.	SF	Bldgs.	SF	Bldgs.	SF
Retail	31	526,514	-	-	-	-	8	86,436
Office	17	110,299	-	-	-	-	-	-
Flex	49	1,463,202	-	-	-	-	-	-
Industrial	256	15,543,889	-	-	1	164,000	1	160,946
Multifamily	-	-	-	-	-	-	-	-
Hospitality	3	133,208	-	-	-	-	-	-
Health	-	-	-	-	-	-	-	-
Specialty	3	163,857	-	-	-	-	-	-
Total	**359**	**17,940,969**	**-**	**-**	**1**	**164,000**	**9**	**247,382**

Source: Bleakly Advisory Group, CoStar Inc.

Table 44. TSCID Lilburn Gwinnett Annex Commercial Real Estate Inventory

	Existing		Under Renovation		Under Construction		Proposed	
	Bldgs.	SF	Bldgs.	SF	Bldgs.	SF	Bldgs.	SF
Retail	-	-	-	-	-	-	-	-
Office	-	-	-	-	-	-	-	-
Flex	-	-	-	-	-	-	-	-
Industrial	9	776,330	-	-	-	-	1	96,000
Multifamily	-	-	-	-	-	-	-	-
Hospitality	-	-	-	-	-	-	-	-
Health	-	-	-	-	-	-	-	-
Total	**9**	**776,330**	**-**	**-**	**-**	**-**	**1**	**96,000**

Source: Bleakly Advisory Group, CoStar Inc.

Table 45. Market Area (2.25-mile Radius) Commercial Real Estate Inventory

	Existing		Under Renovation		Under Construction		Proposed	
	Bldgs.	SF	Bldgs.	SF	Bldgs.	SF	Bldgs.	SF
Retail	270	2,534,453	-	-	-	-	9	97,636
Office	178	1,077,277	-	-	-	-	-	-
Flex	78	1,675,207	-	-	-	-	-	-
Industrial	351	18,043,668	-	-	1	164,000	2	256,946
Multifamily	33	8,502,530	3	1,050	-	-	-	-
Hospitality	3	133,208	-	-	-	-	-	-
Health	4	171,030	-	-	-	-	-	-
Specialty	36	1,366,236	-	-	-	-	1	96,000
Total	**935**	**31,950,949**	**3**	**1,050**	**1**	**164,000**	**10**	**258,582**

Source: Bleakly Advisory Group, CoStar Inc.

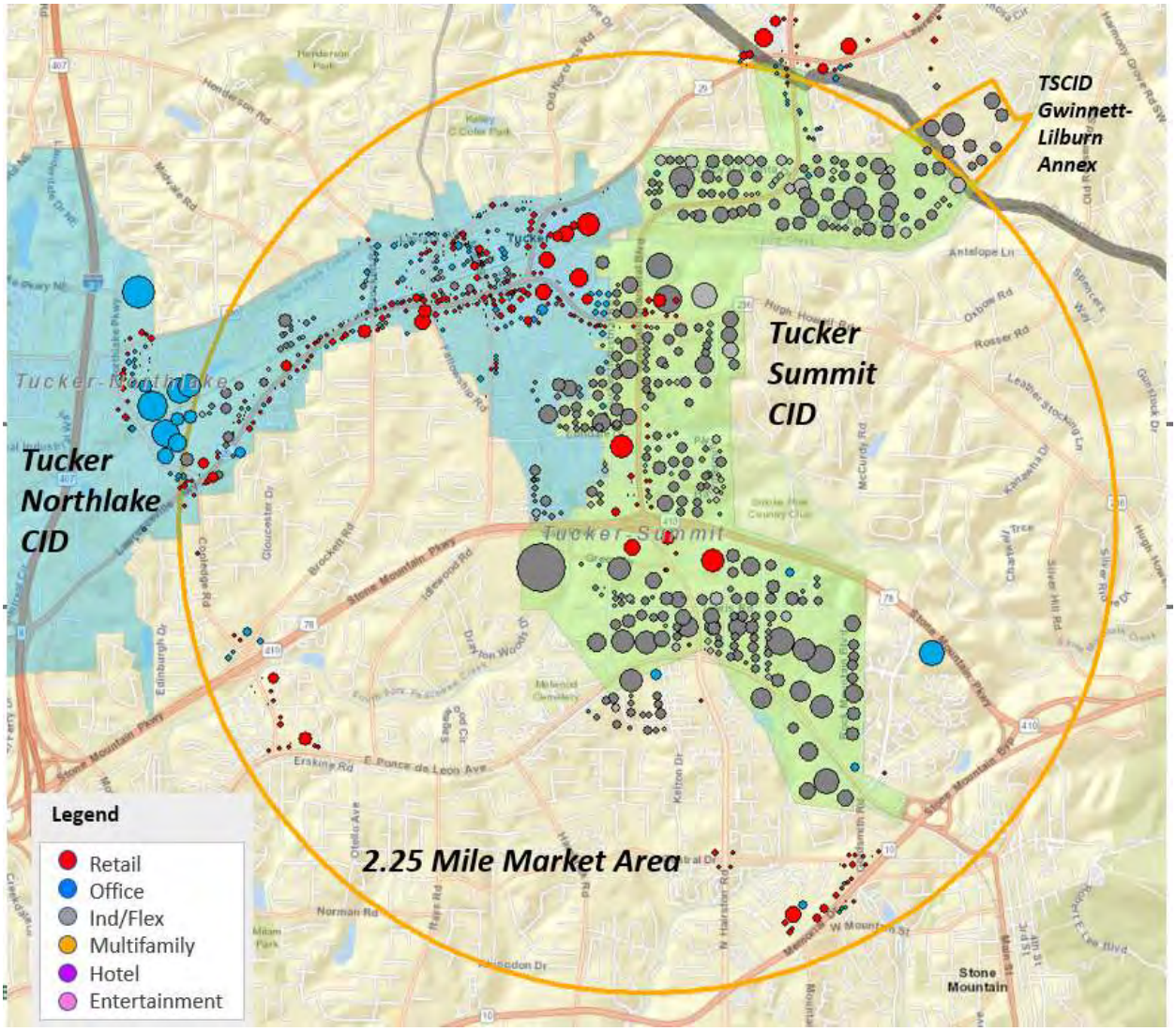
These inventory statistics clarify several key characteristics of the TSCID and the TSCID Market Area:

- The TSCID's commercial real estate inventory is massive, at nearly 18 million SF of space.
- The use of the buildings within the TSCID is 95% of flex industrial.
- The TSCID Lilburn Gwinnett Annex contains 9 buildings with 776,000 SF. These buildings rely on the TSCID's infrastructure yet are not formally part of the TSCID.
- Industrial uses dominate 62% of the commercial real estate space of the larger 2.25-mile TSCID market area.
- The TSCID Market area has a substantial inventory of 33 multifamily (apartment) buildings, with 8.5 million SF of space.
- Development and redevelopment activity in the TSCID and the TSCID Market area is modest, with just 424,000 SF of commercial real estate (equivalent to 1.3 percent of the market area's total inventory) actively under renovation, construction, or proposed.

7.1.2.1 Economic Geography

Using a GIS System, and building data sourced from CoStar, Inc, a map was produced depicting commercial buildings in and around the TSCID market area, coded by land use and building size, to create an "Economic Geography" map that presents a visualization of an area's economic and real estate assets. The map below shows the geographic distribution and patterns of commercial buildings in the TSCID and its market area, illustrating several key points about the area's economic geography:

Figure 37: Real Estate Assets by Class



Source: Bleakly Advisory Group, CoStar Inc.

7.1.3 Development Timeline and Trends

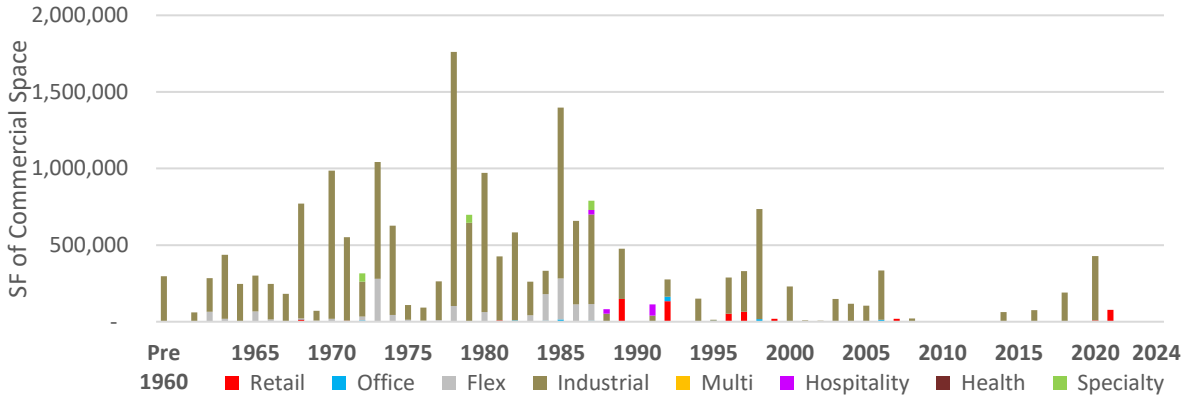
Economic geography can also be viewed as a function of time, rather than space. The two graphics below present a timeline of commercial development, the TSCID and the TSCID Market Area, showing the construction of buildings by year and by land use.

Most buildings in the TSCID were built from the late 1960s to the early 1980s, meaning that much of the building inventory exceeds 40 years in age. This means that buildings in the TSCID are more likely to be facing increasing obsolescence in one or both of two ways:

- Physical Obsolescence: building materials and infrastructural systems deteriorate
- Economic Obsolescence: the design and the purpose of buildings becomes less attuned to current operational and economic needs. In terms of industrial buildings this often pertains to physical dimensions such as ceiling heights, truck loading and access requirements, and infrastructure service.

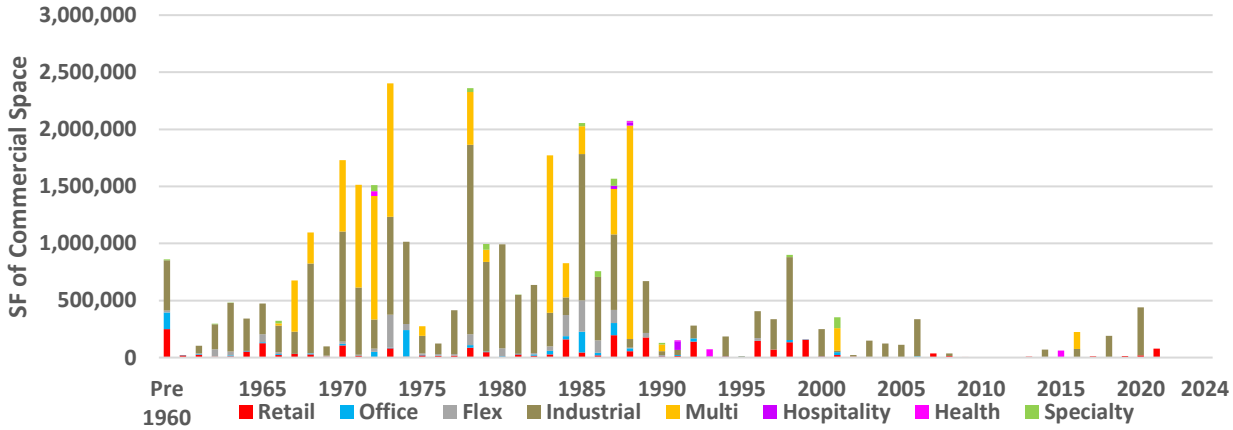
The increasing age and potential obsolescence of an area's building stock and physical infrastructure can lead to a loss of economic competitiveness.

Figure 38: TSCID Development Timeline



Source: Bleakly Advisory Group, CoStar Inc. Note: Multi = Multifamily Residential

Figure 39: TSCID 2.25-mile Market Area Development Timeline



Source: Bleakly Advisory Group, CoStar Inc Note: Multi = Multifamily Residential

7.2 Overview of Commercial Real Estate Inventory by Land Use

The following section provides a description of the Commercial Real Estate inventory of the TSCID, the TSCID Market Area, and DeKalb County broken out by each class of commercial real estate. Each sub-section identifies key features, along with inventory information, rent and vacancy trends, and a table of key inventory characteristics. Because of the significance of industrial land uses in the TSCID, additional inventory information is included for detailed sub-types of industrial space.

7.2.1 Overview of Commercial Real Estate Inventory

- **Average commercial rental rates** within the TSCID generally lag both the Market Area and county:
- **Multifamily – 33% lower** than average rents in DeKalb County
- **Retail – 16% higher** than average rents in DeKalb County
- **Office – 41% lower** than average rents in DeKalb County
- Since 2000, most delivered commercial buildings built in the TSCID have been Industrial/Flex or Retail
    - Seven new retail spaces
    - 1 new Office space
    - 11 delivered Industrial/Flex
    - Vacancy rates for office spaces are higher than in the surrounding area, but closer to the county average.

Table 46. Overview of All Commercial Real Estate Inventory

	TSCID Area	Market Area	DeKalb County
Multifamily			
Existing Buildings	0	34	606
Existing Units	0	7,393	100,924
Vacancy %	0	9.0%	7.7%
Avg. Rent/ SF	0	$0.92	$1.19
Retail			
Existing Buildings	35	294	3,451
Existing SF	536,243	2,952,327	43,966,548
Vacancy %	0.0%	10.0%	6.1%
Avg. NNN Rent	$16.81	$12.88	$14.11
Office			
Existing Buildings	14	182	2,079
Existing SF	106,767	1,156,216	42,006,498
Vacancy %	15.7%	6.6%	12.2%
Avg. Base Rent	$14.63	$16.59	$24.95
Industrial/ Flex			
Existing Buildings	290	636	1,822
Existing SF	15,530,311	20,160,831	60,948,328
Vacancy %	4.1%	4.6%	3.3%
Avg. NNN Rent	$5.27	$7.63	$7.00

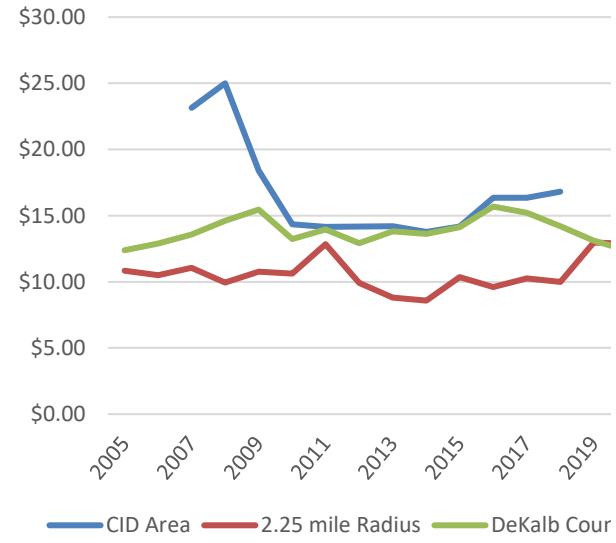
Source: Bleakly Advisory Group, CoStar Inc.

7.2.2 Retail Inventory and Trends

Only seven percent of Retail SF has been built in the TSCID since 2000, while 31% of DeKalb County retail has been built since 2000

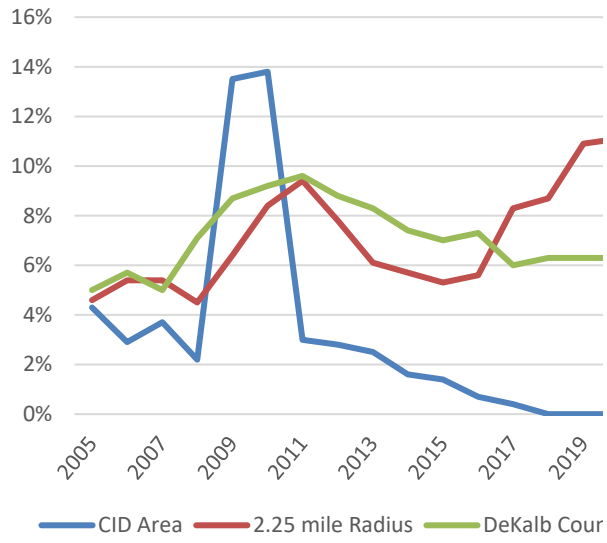
- Retail is largely on the intersections of Mountain Industrial Blvd. at Hugh Howell Rd. and Mountain Industrial Blvd. at US 78.
- Stars and Strikes is the largest single retail space in the TSCID at around 60,000 SF, while uses smaller than 10,000 SF typically include banks, fast food, and gas stations.

Figure 40: Retail Rent Trends



Source: Bleakly Advisory Group, CoStar Inc.

Figure 41: Retail Vacancy Trends



Source: Bleakly Advisory Group, CoStar Inc.

Table 47. Retail Inventory Overview

2020YTD Retail Overview	TSCID	DeKalb County
Buildings	35	3,466
SF	536,243	43,912,806
SF Under Construction	0	0
12 Month Net Absorption SF	5,408	-140,713
Vacancy Rate	0%	6.3%
Average NNN Rent ($/SF)	Not Available	$12.36

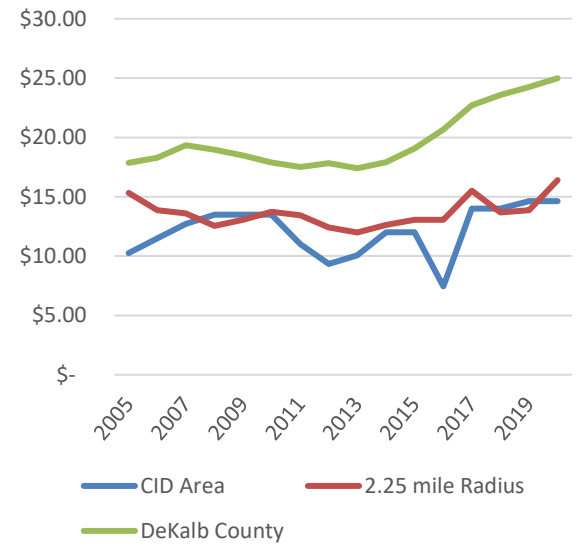
Source: Bleakly Advisory Group, CoStar Inc.

7.2.3 Office Inventory and Trends

Office Inventory is aging in the TSCID:

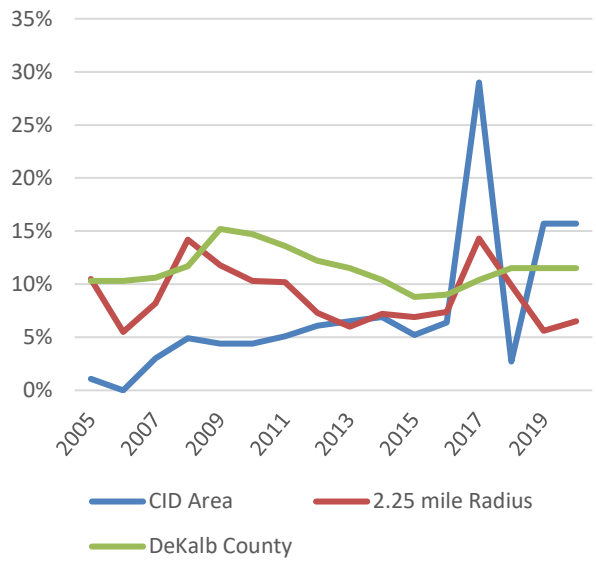
- A majority of office space in both the TSCID and DeKalb County is over 35 years old
- DeKalb County has added 14% of its office SF since 2000 while the TSCID has added 11%
- Office space remains cheaper per SF than the county, likely because of the high cost per SF for offices in newer urban developments

Figure 42: Office Rent Trends



Source: Bleakly Advisory Group, CoStar Inc.

Figure 43: Office Vacancy Trends



Source: Bleakly Advisory Group, CoStar Inc.

Table 48. Office Inventory Overview

2020YTD Office Overview	TSCID	DeKalb County
Buildings	14	2,078
SF	106,767	41,997,050
SF Under Construction	0	0
12 Month Net Absorption SF	-13,936	319,089
Vacancy Rate	15.7%	11.5%
Average NNN Rent ($/SF)	$14.63	$24.99

Source: Bleakly Advisory Group, CoStar Inc.

7.2.4 Detailed Assessment of Freight-Intensive Real Estate and Land Uses

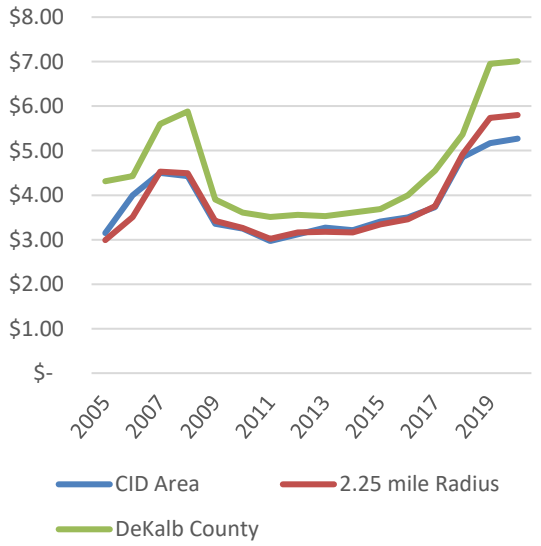
Because of the significance of Industrial land uses in the TSCID, additional inventory information is included for detailed sub-types of industrial space.

7.2.5 Industrial Inventory and Trends

Industry Inventory is the strongest commercial use in the TSCID:

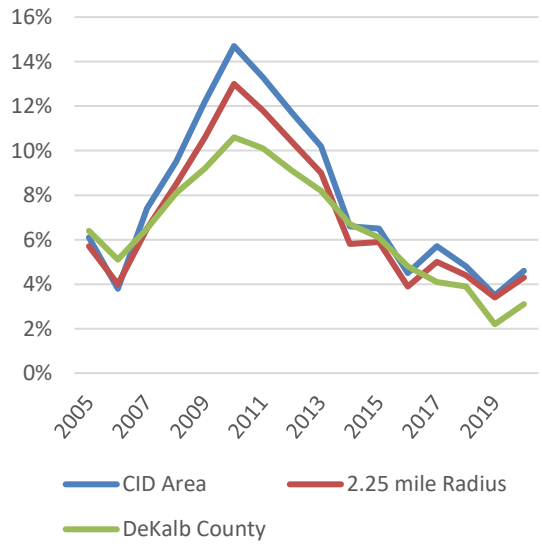
- 94% of the TSCID's Commercial SF is Industrial or Flex, as compared to DeKalb County's overall 21%
- DeKalb County has gained 1.96 mil SF of Industry/Flex since 2000, 835K SF of which were absorbed in the TSCID
- 118 of the 290 buildings are warehouses

Figure 44: Overall Industrial Rent Trends



Source: Bleakly Advisory Group, CoStar Inc.

Figure 45: Overall Industrial Vacancy Trends



Source: Bleakly Advisory Group, CoStar Inc

Table 49. Industrial Real Estate Inventory Overview

Inventory Overview	TSCID	DeKalb County
Buildings	290	1,822
SF	15,530,311	60,948,328
SF Under Construction	0	0
12 Month Net Absorption	170,920	523,160
Vacancy Rate	4.1%	3.1%
Average NNN Rent ($/SF)	$5.27	$7.01

Source: Bleakly Advisory Group, CoStar Inc

Table 50. Detail Overview of Industrial Inventory by Industrial Sub-Type

Warehouse	
Existing Buildings	118
Existing SF	7,570,611
Vacancy %	5.8%
Avg. Base Rent per SF	$5.05
Percent of Total SF in TSCID	46.8%
Flex	
Existing Buildings	46
Existing SF	1,421,596
Vacancy %	4.8%
Avg. Base Rent per SF	$6.37
Percent of Total SF in TSCID	8.8%
Manufacturing & Other	
Existing Buildings	126
Existing SF	6,538,104
Vacancy %	3.6%
Avg. Base Rent per SF	$5.21
Percent of Total SF in TSCID	40.4%
Total Industrial	
Existing Buildings	290
Existing SF	15,530,311
Vacancy %	4.1%
Avg. Base Rent per SF	$5.27
Percent of Total SF in TSCID	96%

Source: Bleakly Advisory Group, CoStar Inc

7.2.6 Warehouse & Logistics Inventory and Trends

The 49 single-tenant warehouse properties in the TSCID account for about 20% of such warehouse properties in DeKalb County, and about 40% of the warehouse properties in the TSCID (versus 60% multi-tenant warehouses). By square footage, however, single-tenant warehouses measure almost 49% of the total warehouse area within the TSCID. All types of warehouses in the TSCID combined account for about 25% of the total number of warehouse properties in DeKalb County and almost a third of the square footage, in line with the TSCID s status as a prominent freight hub within the county.

Table 51. Overview of Warehouse & Logistics Space Allocation

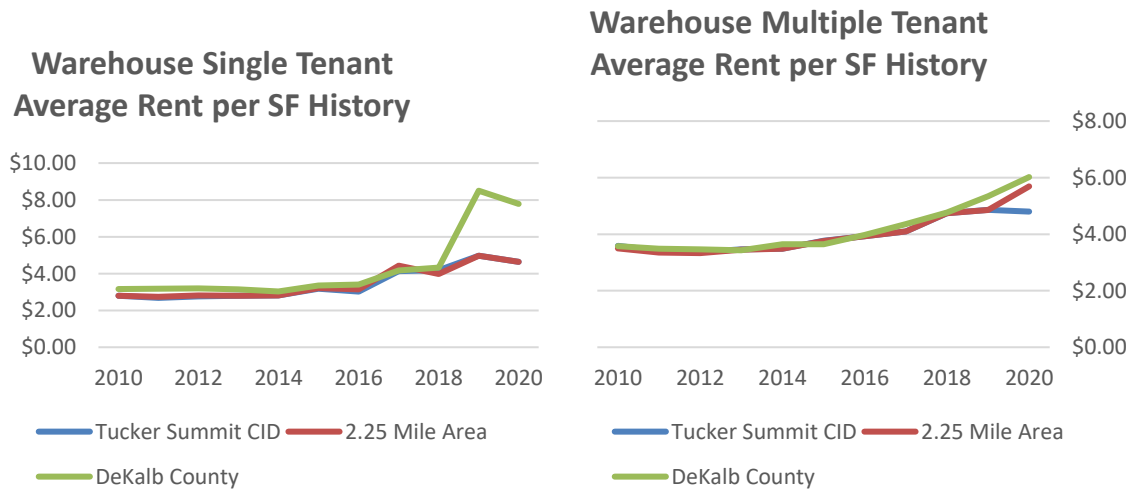
	Buildings		SF of Space		
Warehouse & Logistics Space	TSCID	DeKalb County	TSCID	DeKalb County	TSCID Share of DeKalb County Inventory
Single Tenant Buildings	49	243	3,629,813	11,343,374	32%
Multiple Tenant Buildings	67	260	3,841,048	12,653,721	30%
Total Warehouse & Logistics	116	503	7,470,861	23,997,095	31%

Source: Bleakly Advisory Group, CoStar Inc

Vacancies for both single-tenant and multiple-tenant warehouses in the TSCID have fallen significantly from their recession-era highs, dropping from 25% to a low of seven percent for multiple-tenant and from ten percent to a low of just over one percent for single-tenant. Single-tenant warehouse properties have generally outperformed multiple-tenant warehouses in terms of vacancies in TSCID, a trend that mirrors the county overall. However, vacancy rates of single-tenant warehouses experience a slightly greater degree of volatility, especially at smaller geographies.

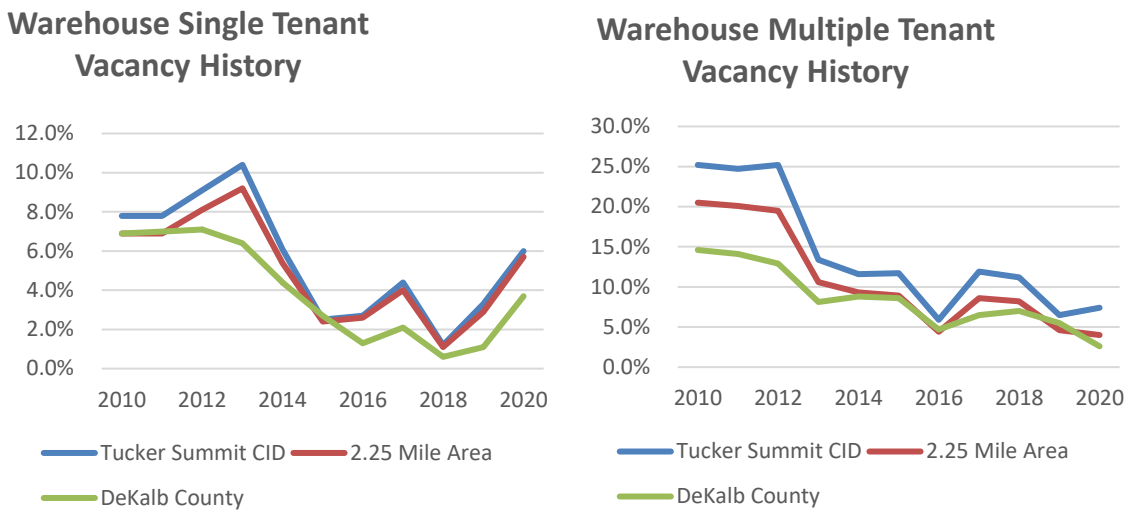
Both types of warehouses in the TSCID and DeKalb County have steadily increased rents during this economic period, with both types rising to about $4.50 per square foot recently within TSCID. DeKalb County has witnessed a substantial spike for single-tenant warehouses in the past two years, while multiple-tenant properties have also seen a strong uptick, possibly in response to cyclically low vacancy rates.

Figure 46: Warehouse Industrial Rent Trends



Source: Bleakly Advisory Group, CoStar Inc

Figure 47: Warehouse Industrial Vacancy Trends

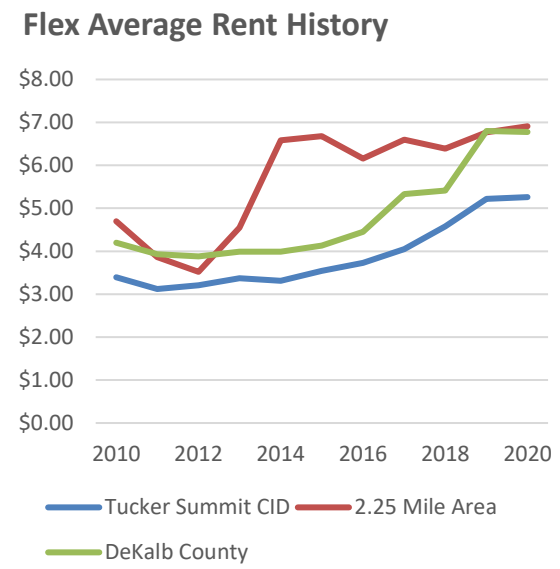


Source: Bleakly Advisory Group, CoStar Inc

7.2.7 Flex Space Trends

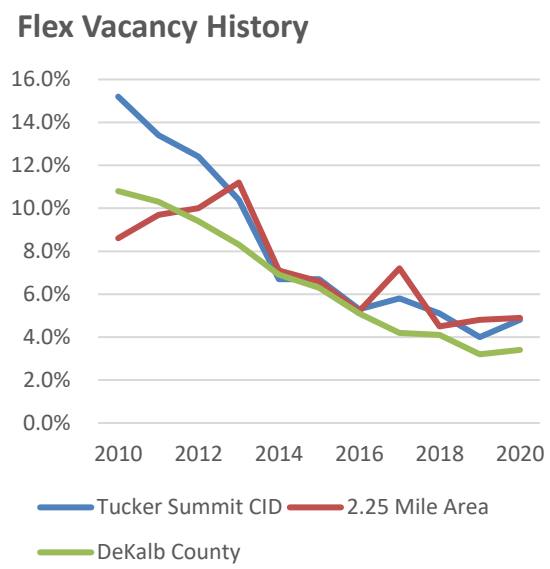
Vacancies for flex space in the TSCID have recovered from a high of 16% in 2010 to a current rate of just under five percent, with average rents correspondingly increasing from around $3.50 per square foot to over $5.00 per square foot (a 43% increase). However, despite low vacancy rates for flex properties within the TSCID, rents per square foot in DeKalb County overall still average almost $2.00 per square foot higher, with an especially notable increase in average rent over the past four years.

Figure 48: Flex Space Rent Trends



Source: Bleakly Advisory Group, CoStar Inc

Figure 49: Flex Space Vacancy Trends

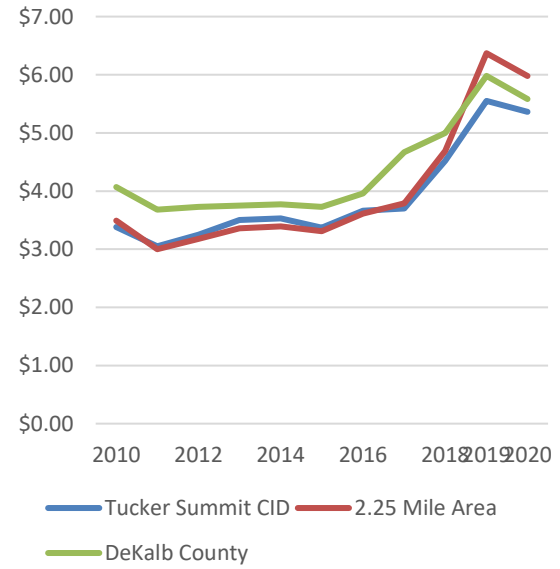


Source: Bleakly Advisory Group, CoStar Inc

7.2.8 Manufacturing and Other Industrial Space

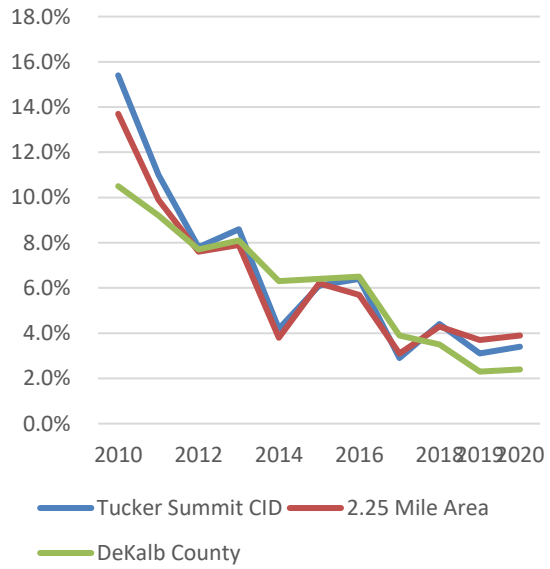
Meanwhile, vacancies for industrial space in the TSCID have recovered strongly as well (15.5% in 2010 down to 4.5% in 2020), with a corresponding increase in average rents ($3.50 per square foot in 2010 to $5.25 in 2020). These rates, while more volatile from year to year than in the county at large, track closely with DeKalb County's overall trends.

Figure 50: Flex Industrial Rent Trends



Source: Bleakly Advisory Group, CoStar Inc

Figure 51: Flex Industrial Vacancy Trends



Source: Bleakly Advisory Group, CoStar Inc

7.3 Workforce Characteristics

7.3.1 Market Area Workforce Characteristics

The following section provides detailed characteristics of the TSCID Market Area's workforce, meaning the population who lives in the TSCID Market Area, in contrast to the area's employment, or people who work in the area, which is detailed in the following section. The data is sourced from the United States Census Longitudinal Employer-Household Dynamics 2017 data, extrapolated to 2019 estimates based on county-wide workforce growth trends from the US Bureau of Labor Statistics.

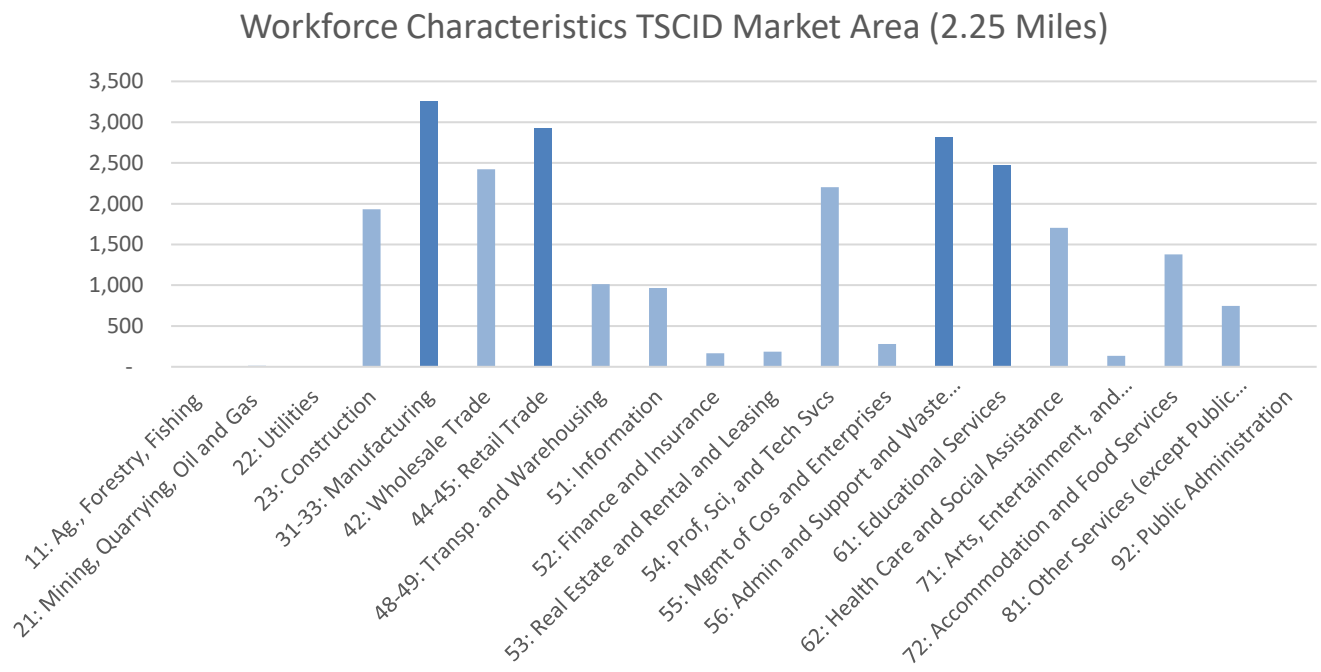
The Market Area's Workforce is closely aligned to support the employment demands of the CID, with the participation in wholesale, manufacturing, construction, and professional/scientific and technical service sectors. Sectors which typically correlate with office space usage, such as finance, information and management tend to be underrepresented in the local area workforce. Minimal participation in certain sectors such as agriculture and mining, and heavy participation in retail and education is consistent with regional and national workforce trends.

Table 52. Market Area Workforce Characteristics

Workforce by NAICS Industry Sector	2002	2019	Change 2002-2019
11: Ag., Forestry, Fishing	6	-	-100%
21: Mining, Quarrying, Oil and Gas	2	14	621%
22: Utilities	373	-	-100%
23: Construction	1,956	1,931	-1%
31-33: Manufacturing	3,038	3,251	7%
42: Wholesale Trade	4,102	2,421	-41%
44-45: Retail Trade	5,151	2,925	-43%
48-49: Transp. and Warehousing	944	1,014	7%
51: Information	816	965	18%
52: Finance and Insurance	1,240	166	-87%
53: Real Estate and Rental and Leasing	326	187	-43%
54: Prof, Sci, and Tech Services	1,457	2,202	51%
55: Mgmt. of Cos and Enterprises	257	281	9%
56: Admin and Support and Waste Mgmt.	2,435	2,809	15%
61: Educational Services	718	2,468	244%
62: Health Care and Social Assistance	1,225	1,704	39%
71: Arts, Entertainment, and Recreation	167	136	-19%
72: Accommodation and Food Services	1,494	1,380	-8%
81: Other Services (except Public Admin)	956	748	-22%
92: Public Administration	114	2	-98%
Grand Total	26,777	24,605	-8%

Source: US Census Longitudinal Employer-Household Dynamics, BLS

Figure 52: Market Area Workforce Characteristics



Source: US Census Longitudinal Employer-Household Dynamics, BLS

Based on 2017 US Census estimates, the TSCID Market Area workforce is defined by the following characteristics:

Table 53. TSCID Market Area Workforce (2017 US Census)

Market Area Workforce by Earnings (estimate)	
$1,250/mo (Similar to <$15K/Year)	21%
$1,251 to $3,333/mo Similar to $15-40K/Year	43%
More than $3,333/mo (Similar to >$40K/Year	36%
Market Area Workforce by Worker Age	
Age 29 or younger	24%
Age 30 to 54	57%
Age 55 or older	19%
Market Area Workforce by Worker Educational Attainment	
Less than high school	11%
High school or equivalent, no college	20%
Some college or Associate degree	24%
Bachelor's degree or advanced degree	20%
Educational attainment not available (aged 29 or younger)	24%

Source: US Census Longitudinal Employer-Household Dynamics,

7.3.3 Market Area Employment Characteristics

This section presents a detailed description of jobs located in the TSCID, the TSCID Market Area and DeKalb County. It is a blended estimate based on data from US Census Longitudinal Employer-Household Dynamics 2019, Environics Analytics Spotlight 2020, and US Bureau of Labor Statistics (2020).

Table 54. Employment Characteristics, 2019

	Tucker Summit CID			2.25 Mile Market Area			DeKalb County			
Sector	Firms	Employees	% of Total Employment	Firms	Employees	% of Total Employment	Firms	Employees	% of Total Employment	Share of County Jobs in Tucker CID
11: Ag., Forestry, Fishing	0	-	0.0%	2	12	0.1%	18	61	0.0%	0.0%
21: Mining, Quarrying, Oil and Gas	0	-	0.0%	-	-	0.0%	10	92	0.0%	0.0%
22: Utilities	0	-	0.0%	-	-	0.0%	8	454	0.1%	0.0%
23: Construction	57	898	10.2%	139	1,406	7.8%	1,570	10,354	2.9%	8.7%
31-33: Manufacturing	109	2,696	30.6%	143	2,428	13.5%	725	11,422	3.2%	23.6%
42: Wholesale Trade	96	1,442	16.4%	133	1,444	8.1%	703	9,344	2.6%	15.4%
44-45: Retail Trade	116	1,458	16.5%	323	2,960	16.5%	3,719	46,951	13.1%	3.1%
48-49: Transp. and Warehousing	26	393	4.5%	54	582	3.2%	562	7,403	2.1%	5.3%
51: Information	14	90	1.0%	43	212	1.2%	637	7,347	2.1%	1.2%
52: Finance and Insurance	34	139	1.6%	136	449	2.5%	1,957	11,511	3.2%	1.2%
53: Real Estate and Rental and Leasing	27	149	1.7%	107	397	2.2%	1,696	9,008	2.5%	1.7%
54: Prof, Sci, and Tech Svcs	74	496	5.6%	206	888	5.0%	3,325	20,546	5.7%	2.4%
55: Mgmt of Cos and Enterprises	5	23	0.3%	6	20	0.1%	45	182	0.1%	12.4%
56: Admin and Support and Waste Mgmt	25	672	7.6%	67	743	4.1%	1,195	7,824	2.2%	8.6%
61: Educational Services	15	776	8.8%	38	1,617	9.0%	734	78,719	22.0%	1.0%
62: Health Care and Social Assistance	35	801	9.1%	207	1,713	9.6%	7,610	59,575	16.7%	1.3%
71: Arts, Entertainment, and Recreation	6	55	0.6%	21	259	1.4%	481	4,176	1.2%	1.3%
72: Accommodation and Food Services	20	396	4.5%	108	1,329	7.4%	1,905	29,559	8.3%	1.3%
81: Other Services (except Public Admin)	61	396	4.5%	273	1,116	6.2%	3,401	20,436	5.7%	1.9%
92: Public Administration	6	106	1.2%	11	267	1.5%	349	21,060	5.9%	0.5%
99: Unassigned	61	54	0.6%	166	79	0.4%	2,313	1,421	0.4%	3.8%
Grand Total	**787**	**11,040**	**125.3%**	**2,183**	**17,921**	**100.0%**	**32,963**	**357,445**	**100.0%**	**3.1%**

The TSCID has an estimated 11,040 Primary Jobs in 2019, with an additional 144 non-primary jobs, for a total of 11,184 estimated total jobs in 2019.

- "Primary Jobs" is roughly equivalent to "workers." If a person works primarily in one job and then takes a weekend shift at another job, that person has one primary job, but has two total jobs.
- Non-primary jobs are typically part-time or seasonal.

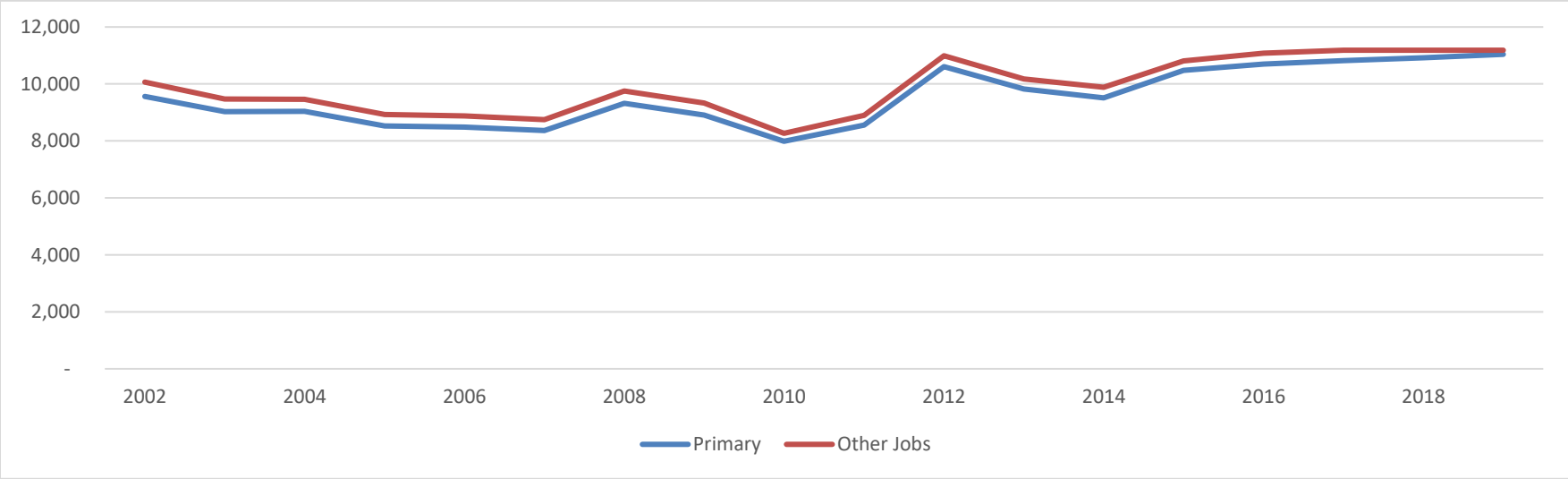
Since 2002, employment in the TSCID has increased modestly from 10,062 to 11,184. Since overall occupancy of TSCID buildings remains high, it is likely that the modest employment increase is due to increased operational efficiencies and automation, resulting in lower demand for labor for the same amount of economic output.

Table 55. Employment Change over Time, TSCID 2002-2019, Primary and Non-Primary Jobs

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Primary Jobs	9,557	9,024	9,038	8,530	8,490	8,368	9,319	8,906	7,988	8,551	10,610	9,824	9,514	10,472	10,695	10,820	10,919	11,040
Other Jobs	505	443	425	400	384	375	433	427	279	345	375	353	368	339	389	364	265	144
Total	**10,062**	**9,467**	**9,463**	**8,930**	**8,874**	**8,743**	**9,752**	**9,333**	**8,267**	**8,896**	**10,985**	**10,177**	**9,882**	**10,811**	**11,084**	**11,184**	**11,184**	**11,184**

Source: US Census Longitudinal Employer-Household Dynamics 2019, Environics Analytics Spotlight 2020, and US Bureau of Labor Statistics (2020)

Figure 53: Change in TSCID Employment over Time, 2002-2019

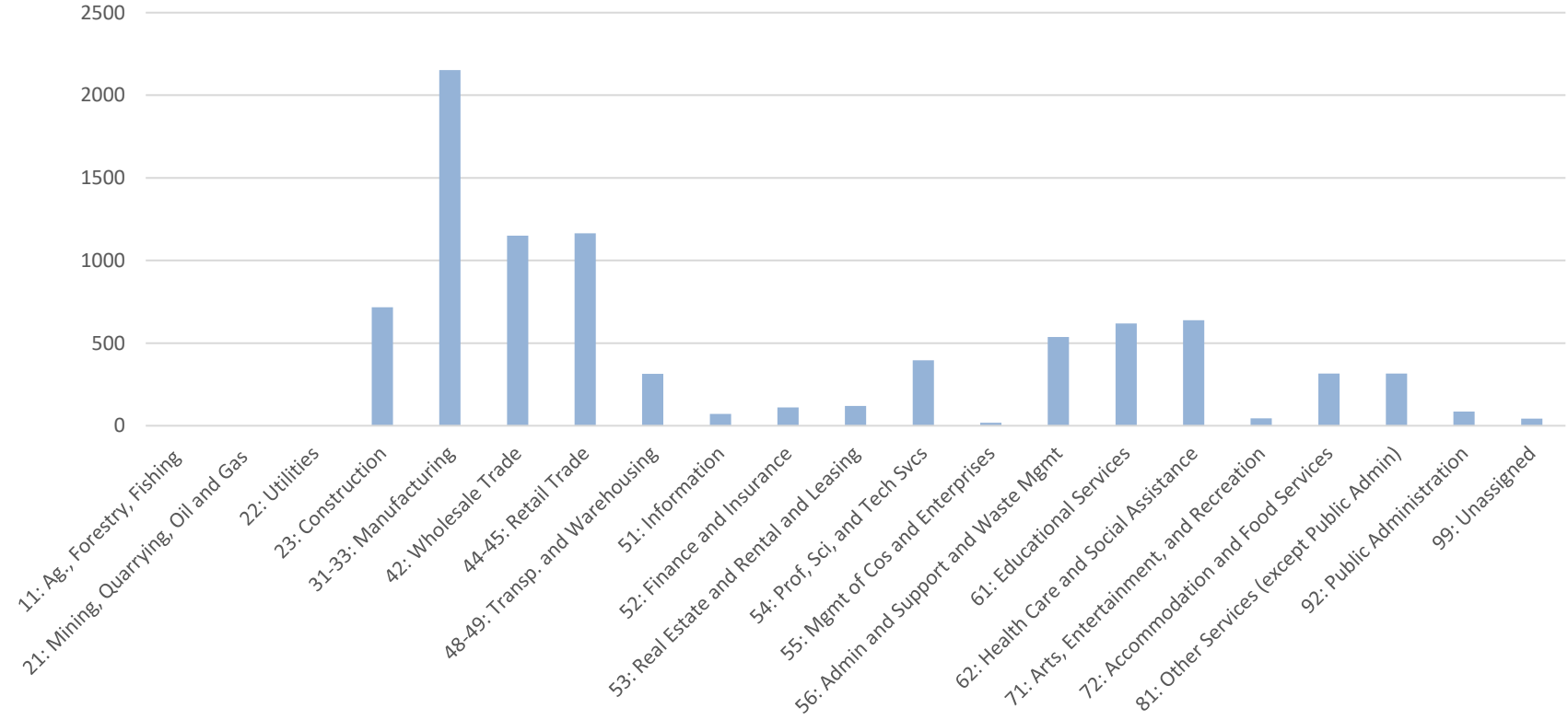


Source: US Census Longitudinal Employer-Household Dynamics 2019, Environics Analytics Spotlight 2020, and US Bureau of Labor Statistics (2020)

The balance of employment sectors with jobs located within the TSCID is driven primarily by the mix of buildings and land uses found in the TSCID. The sectors with the largest share of employment in this logistics and manufacturing district, largely correlate with the local workforce, with wholesale trade retail trade, manufacturing, and construction represent the sectors with the largest share of jobs in the TSCID. Sectors which typically correlate with office space usage, such as finance, information and management have only a minimal present in the TSCID.

7.3.4 TSCID Employment by NAICS Sector 2019

Figure 54: TSCID Jobs by NAICS Code



Source: US Census Longitudinal Employer-Household Dynamics 2019, Environics Analytics Spotlight 2020, and US Bureau of Labor Statistics (2020)

The Atlanta Regional Commission provides forecasts of employment, population and households. This section provides those forecasts for both the Northeast DeKalb Super District and DeKalb County.

Table 56. Northeast DeKalb Superdistrict Employment Forecasts by Sector

NAICS Sector	2010	2020	2030	2040	Net Change 2020-2040	% Change 2020-2040
Agriculture	13	16	19	21	5	31%
Mining	-	-	-	-	-	0
Utility	540	531	538	544	13	2%
Construction	2,391	3,131	3,467	3,824	693	22%
Manufacturing	4,031	4,046	4,236	4,801	755	19%
Wholesale Trade	4,316	5,153	4,710	4,271	(882)	-17%
Retail Trade	6,454	7,035	7,621	8,663	1,628	23%
Transportation Warehousing	5,311	6,134	6,826	7,562	1,428	23%
Information	3,350	3,875	3,728	3,618	(257)	-7%
Financing	1,967	2,920	3,317	3,749	829	28%
Real Estate	705	1,541	1,990	2,533	992	64%
Professional Technical	4,315	5,805	7,092	8,322	2,517	43%
Management	1,467	2,537	2,832	2,724	187	7%
Administrative Waste	4,756	7,191	8,234	9,008	1,817	25%
Educational	7,192	7,797	8,722	9,735	1,938	25%
Health Social Assistance	6,795	7,530	9,703	13,009	5,479	73%
Arts Entertainment Food	790	1,011	1,172	1,366	355	35%
Food & Accommodation	3,455	4,183	4,527	4,972	789	19%
Other Services	2,347	3,437	4,067	4,911	1,474	43%
Public Administration	616	795	1,150	1,503	708	89%
Total	**62,821**	**76,688**	**85,981**	**97,176**	**20,468**	**27%**

Source: Atlanta Regional Commission

Table 57. DeKalb County Employment Forecasts by Sector

NAICS Sector	2010	2020	2030	2040	Net Change 2020-2040	% Change 2020-2040
Agriculture	39	42	47	49	7	17%
Mining	112	145	122	78	(67)	-46%
Utility	961	939	956	974	35	4%
Construction	9,002	10,764	11,499	12,269	1,505	14%
Manufacturing	13,265	13,315	13,827	15,268	1,953	15%
Wholesale Trade	12,710	15,270	13,990	12,570	(2,700)	-18%
Retail Trade	31,696	33,685	35,597	39,029	5,344	16%
Transportation Warehousing	16,466	18,020	19,252	20,555	2,535	14%
Information	12,331	13,522	13,249	12,938	(584)	-4%
Financing	9,355	13,750	15,498	17,452	3,702	27%
Real Estate	4,026	8,109	10,198	12,735	4,626	57%
Professional Technical	19,955	25,654	30,467	35,061	9,407	37%
Management	7,330	9,755	10,417	10,121	366	4%
Administrative Waste	20,118	27,339	30,464	32,686	5,347	20%
Educational	36,600	39,114	42,731	46,790	7,676	20%
Health Social Assistance	41,156	44,927	55,991	72,667	27,740	62%
Arts Entertainment Food	2,486	3,308	3,848	4,496	1,188	36%
Food Accommodation	21,228	24,585	26,026	28,009	3,424	14%
Other Services	10,221	14,082	16,268	19,163	5,081	36%
Public Administration	20,629	23,062	27,655	32,212	9,150	40%
Total	291,696	341,407	380,132	427,162	85,735	25%

7.3.5 Assessment of Workforce and Employment Characteristics

Table 58. Forecasts of Population, Household and Employment

NE DeKalb Superdistrict	2010	2020	2030	2040	Net New 2020-2040	% Change 2020-2040
Population	71,533	91,235	95,026	99,589	8,354	9%
Households	32,930	36,374	39,520	42,891	6,517	18%
Employment	60,811	74,668	83,951	95,136	20,468	27%
DeKalb County	**2010**	**2020**	**2030**	**2040**	**Net New 2020-2040**	**% Change 2020-2040**
Population	738,752	832,422	880,070	930,718	98,296	12%
Households	281,527	310,258	335,194	361,975	51,717	17%
Employment	289,686	339,387	378,102	425,122	85,735	25%

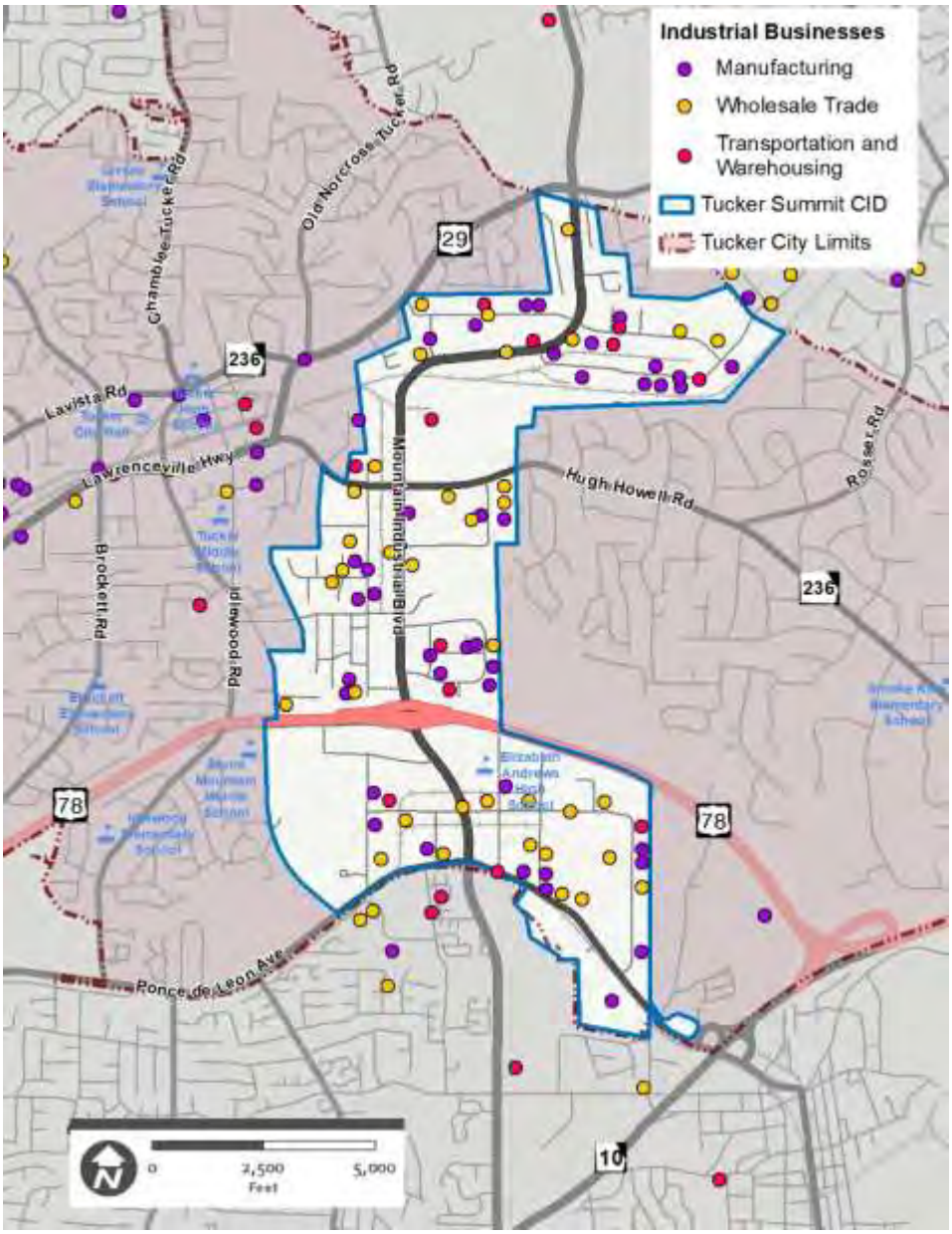
Source: Atlanta Regional Commission

7.4 Identification and Assessment of Freight Traffic Generators

7.4.1 Locations of Industries that Generate Truck Traffic

The TSCID has a strong mix of industrial businesses, which is advantageous for attracting and retaining industrial development. Over half the businesses are in the manufacturing sector, a third are comprised of wholesale businesses and 13% are in the transportation and warehousing sector. The area employs more than 1,900 employees in these industrial businesses and ensuring access to sustainable transportation modes will help reduce congestion and increase access to the labor pool, especially for entry level jobs.

Figure 55: Industrial Businesses in the TSCID



Source: CNT

7.4.2 Profile of Existing industrial Uses, Sales, Supply Chain

Industry, wholesaling and logistics have long been DeKalb County's dominant sectors in terms of commercial real estate. DeKalb County has over 135 million SF of industrial and flex-industrial space, representing 43% of all the county's commercial real estate. Most of this space falls into one of three categories:

- Factories, plants and manufacturing space;
- Warehouses, wholesale, distribution and logistics space; or
- Smaller flex space buildings targeted at companies that need to combine office, warehouse and or manufacturing space.

As most of the development, particularly Industrial in DeKalb County took place in the 1970s and 1980s, much of this space is aging. Moreover, most of the current industrial and flex-industrial offerings were built prior to many recent major changes in the way companies use industrial space.

Globalization has brought some of these changes. The decreased cost of manufacturing abroad, combined with shifts in global trade policies, has meant that many manufacturers have taken their factories and operations overseas. At the same time, innovation in air freight and container shipping has significantly reduced shipping costs and time, leading to increased ease of imports.

Big-box chains and technology have disrupted many local manufacturers. For instance, small, locally-owned cabinet shops who would have previously located shops and warehouses in one of DeKalb County's many flex-industrial buildings are having a much harder time competing with big-box hardware and home supply retailers with their optimized global supply chains. As supply chains and inventory management have increasingly been digitalized, the efficiency of large-scale operations with access to that technology has increased, in turn leading to higher profits.

Another factor impacting DeKalb County's large manufacturing sector has been the rise of automation, which changes the number of workers needed, the skillset of that workforce, and the physical design requirements of buildings themselves.

The exponential rise of e-commerce in the past 20 years has created demand for large warehouses. In the past warehouses were typically up to 100,000 SF. Retailers like Amazon now require spaces up to 1 million SF, which have much higher ceilings, optimized for automation. This also impacts freight carriers like UPS and FedEx which have had to change their business models to keep up with the demand for e-commerce delivery.

The challenge for DeKalb County will be to leverage these changes into success for the county. The previous decade has seen some automobile manufacturing returning to the Southeast. This has largely been accomplished through locales actively recruiting business with incentives and amenities that will attract the workforce.

7.4.3 Changing Industrial Trends

Atlanta's industrial markets continue to grow, aided by a strong freight network consisting of three interstate highways, two Class I railroads, and its proximity to Port Savannah. The manufacturing, distribution and warehousing sectors are dependent on this well-connected freight network and the expansion of Port Savannah is expected to increase freight movement into metro Atlanta. A large share of the freight movement in the region is made by trucks (83%), followed by rail (17%) and air (0.1%).

E-commerce and two-day delivery services have created the need for fulfillment and distribution centers in large and smaller cities alike. And as goods imported through Savannah continue to make their way to Metro Atlanta, the demand for suitable spaces in well-located areas will increase. Prices in locations closer to downtowns are increasing as investors begin to purchase properties to meet anticipated demand. In addition, as urban areas continue to attract new residents and jobs, vacant and obsolete industrial properties in these highly desirable areas become attractive options for mixed-use developments, in turn compelling industrial developers to seek greenfield properties away from city centers.

In the Stone Mountain sub-market area, vacancy rates at the end of 2019 were at 5.7% (compared to an average of 7.6% in the Atlanta region), with some concerns over overbuilding in anticipation of future industrial growth. The current industrial stock in the TSCID and neighboring areas are older and in their current state are not suitable for ecommerce and fulfillment centers, which have requirements such as larger square footage and high ceilings. Vacant, greenfield sites in proximity to major freight networks are proving to be attractive options, as witnessed by the new 2,560,000 square feet Amazon fulfillment center under construction[66] in neighboring Stone Mountain, 6 miles southeast of TSCID. Freight movement along Mountain Industrial Boulevard, a designated connector in the ASTRoMaP system is expected to increase as easier freight movement to north and east Atlanta will be desired.

7.4.4 Infrastructure as Economic Development

Much of economic development happens in the realm of infrastructure. A major element of ensuring that the county can prosper and remain economically sustainable requires building and maintaining high-quality infrastructure: clean water, sewers, stormwater and drainage, power distribution, roads, sidewalks, and signage.

DeKalb County staff and elected officials are increasingly aware of the role that quality infrastructure plays in economic development and business recruitment. As regulations to protect water quality lead to stormwater retention and detention infrastructure becoming an increasingly significant share of development costs, the County can help spearhead shared stormwater solutions, which can enhance the marketability and redevelopment potential of large areas while also creating stormwater ponds as greenspace amenities.

[66] ARC Regional Review Finding, July 9, 2018, Project Rocket (DRI 2807), http://documents.atlantaregional.com/Land%20Use/Reviews/ID1882/ARC%20Final%20Report%20-%20Project%20Rocket%20-%20DRI%202807.pdf

Communications infrastructure is also becoming a major tool of economic development, as public sector investment in high speed communications networks becomes more prevalent. Patching vulnerabilities in networks and updating older software is crucial to protect companies—and the County—from vulnerabilities.

Much of the nation's infrastructure (roads, bridges, power grids) needs continuous maintenance and updating. Often, these "invisible" projects are given low priority, in favor of flashy projects the public can easily see. It is crucial that DeKalb County continue to maintain its existing infrastructure to remain competitive, while also increasing capacity and modernizing to adapt to an increasing population, to absorb industrial and commercial growth, and to remain positioned among the best in class when it comes to economic development and recruitment.

7.5 Identification of Potential Catalyst/Opportunity Sites

In redevelopment and revitalization plans, it is important to identify two types of sites:

- Sites that are likely to change, based on physical, market or economic attributes.
- Sites that have the potential to catalyze change or redevelopment in an area.

Often there is significant overlap in these two categories, as those sites with the most potential to catalyze change are often those that are the easiest to redevelop due to underdevelopment, obsolescence, low land cost, and minimal displacement of existing buildings, people or operations.

As this this study progresses, the TSCID leadership, stakeholders, and steering committee are all in agreement that catalytic change and redevelopment is not a desired outcome of this Freight Cluster Plan. Instead, the goal is to strengthen the area's existing uses, operations and characters, rather than catalyze change and redevelopment in the area.

While the outreach element of this plan is still underway, through the steering committee, stakeholder meetings, and public input, the planning team has not been made aware of any particular sites within the TSCID or study area that are known to be' problem sites" with widespread agreement that they should be cleared or redeveloped. As such, at this point in the study, no sites have been designated as "Catalyst Sites" as catalytic change is not a desired outcome of this process.

The following section, which uses a technical screening methodology to identify sites with propensity to change can be used as a starting point for further discussions with project stakeholders to see if any consensus on potential catalyst sites arises.

7.5.1 Technical Screening to Identify Sites with Propensity to Change

7.5.1.1 Discussion of Catalyst Site Selection

To generate a list of parcels in the TSCID market area, a GIS-based technical screening methodology was developed.

As a starting point, GIS layers of DeKalb County tax parcels and commercial buildings were overlaid in GIS. A single parcel can contain zero, one or multiple buildings.

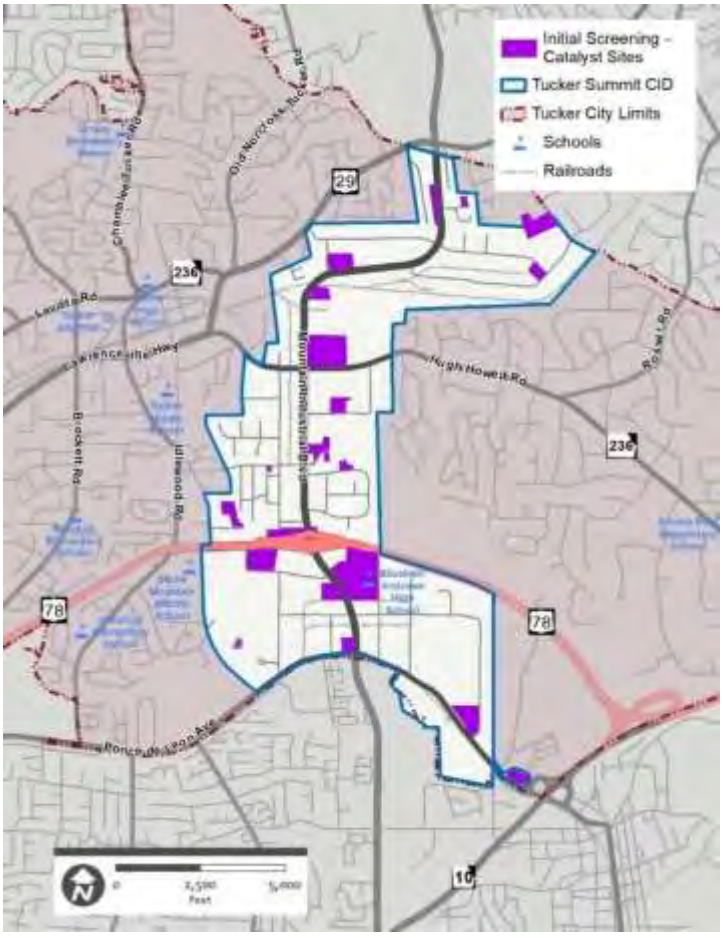
The data attributes of the parcels and buildings were used as the basis of the technical screening, augmented by aerial photography, site windshield survey, and google street view to identify parcels that meet four screening criteria which are listed in the attributes of the parcel file:

- **Land Sale or Lease Status**: One or more buildings on the parcel have been listed for sale or lease = 1 Point
- **Building Age:** One or more buildings on the parcel are more than 50 years old (The analysis started with 40, but that captured just about every building in the TSCID) = 1 Point
- **Vacancy:** The parcel is vacant or one or more buildings on the parcel have a vacancy rate higher than 50 percent = 1 Point
- **Qualitative**: The team has made a qualitative assessment that a building or parcel is substandard, in poor condition, or otherwise subject to change = 1 Point

For each parcel, a score was developed based on the sum of all points assigned for parcels and buildings contained within the parcel. As some parcels include multiple buildings, the highest received score was 7. 48 parcels out of 5,416 in the TSCID Market Area have been designated with a score of one or higher.

This is a preliminary screening. It will be reviewed and refined by stakeholders, steering committee members and continuing dialogue through the public outreach process.

Figure 56: Potential Catalyst Sites from GIS/RE inventory



Source: CNT, Bleakly

7.5.2 Qualitative Identification of Potential Catalyst Sites

Table 59. Technical Screening Results

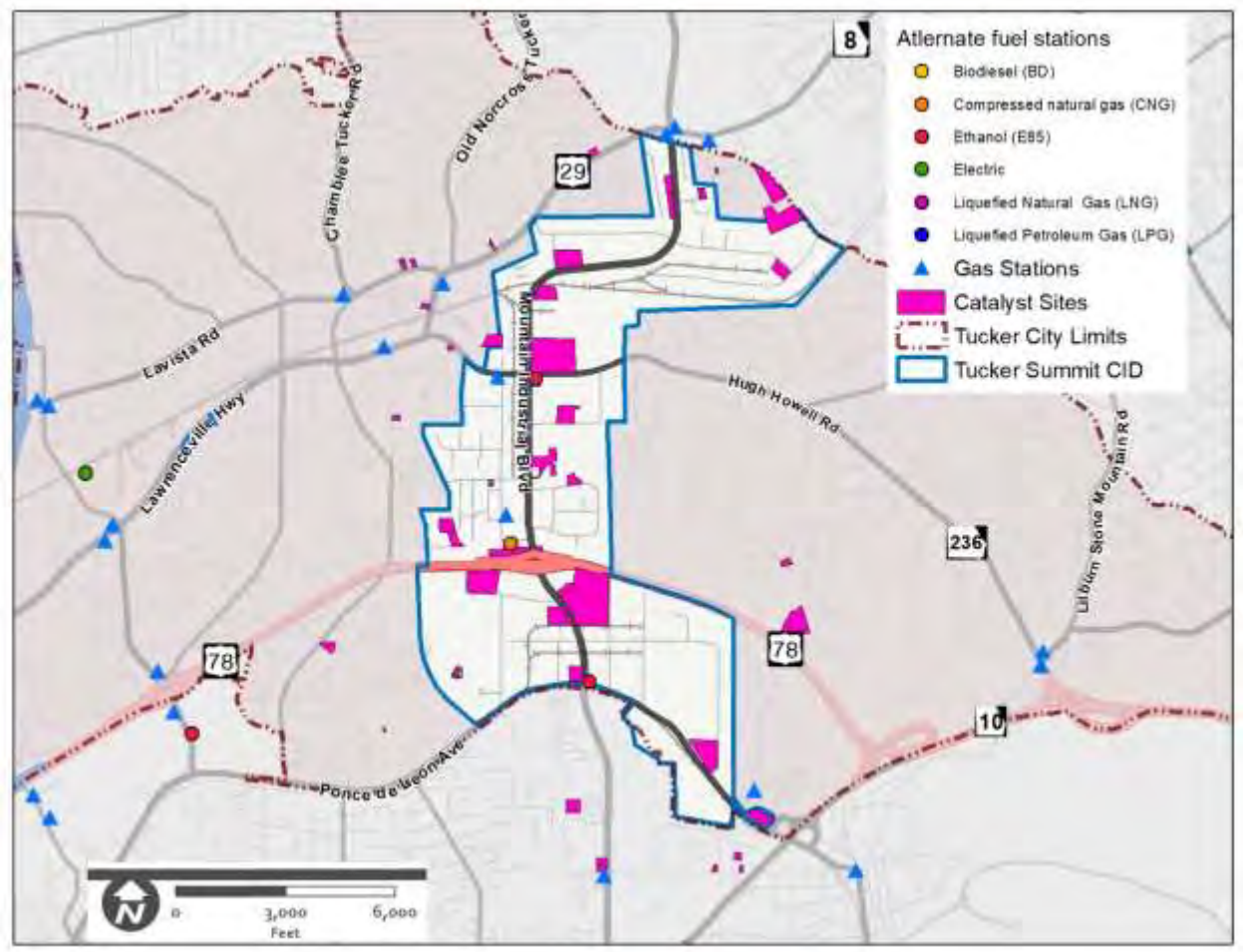
FID	Parcel ID	Acres	In TSCID?	Land Status	50+ Yrs.	Vacancy	Qualitative	Total
1621	18 170 01 001	2.340878	1	3	3	0	1	7
1692	18 140 01 219	1.115411	1	2	2	0	1	5
2239	18 214 04 065	0.688707	1	2	2	0	1	5
2469	18 184 07 039	5.702204	1	2	2	0	1	5
23	18 125 02 037	0.505051	1	1	1	0	1	3
29	18 123 01 014	1.075454	1	1	1	0	1	3
41	18 124 06 008	0.553565	1	1	1	0	1	3
297	18 123 01 010	1.232896	1	1	1	0	1	3
442	18 125 02 013	0.86854	1	1	1	0	1	3
683	18 123 01 005	2.914139	1	1	1	0	1	3
699	18 125 01 003	4.120428	1	1	1	0	1	3
938	18 124 03 001	9.983023	1	1	1	0	1	3
1640	18 169 06 001	11.76282	1	1	1	0	1	3
1643	18 170 01 006	34.94045	1	1	1	0	1	3
1659	18 172 01 074	1.068367	1	1	1	0	1	3
1686	18 139 04 001	3.593113	1	1	1	0	1	3
1761	18 137 01 008	1.286235	1	1	1	0	1	3
1851	18 170 02 004	6.212794	1	1	1	0	1	3
1854	18 172 01 005	8.634135	1	1	1	0	1	3
1868	18 185 04 067	3.457185	1	1	1	0	1	3
1979	18 185 06 001	0.47437	1	1	1	0	1	3
2018	18 184 07 045	1.995718	1	1	1	0	1	3
2079	18 169 04 004	5.106235	1	1	1	0	1	3
2084	18 170 04 004	0.608167	1	1	1	0	1	3
2147	18 185 04 064	2.212749	1	1	1	0	1	3
2327	18 215 02 024	5.387236	1	1	1	0	1	3
2402	18 184 07 041	0.902056	1	1	1	0	1	3
2670	18 214 05 024	0.474058	1	1	1	0	1	3
2759	18 214 10 026	0.818777	1	1	1	0	1	3
2846	18 215 01 002	25.77347	1	1	1	0	1	3
2869	18 214 08 013	3.697861	1	1	1	0	1	3
3150	18 257 01 001	11.36177	1	1	1	0	1	3
3277	18 256 06 129	0.694943	1	1	1	0	1	3
3280	18 256 06 130	0.675692	1	1	1	0	1	3
3341	18 224 08 021	4.889176	1	1	1	0	1	3
3422	18 225 04 004	0.36531	1	1	1	0	1	3
3431	18 225 03 009	0.621156	1	1	1	0	1	3
3434	18 225 04 015	0.681165	1	1	1	0	1	3
3508	18 225 01 021	0.570505	1	1	1	0	1	3
3823	18 256 05 028	2.017048	1	1	1	0	1	3
3876	18 256 07 066	0.321399	1	1	1	0	1	3
3996	18 255 01 132	1.116493	1	1	1	0	1	3
4504	18 222 03 010	3.424669	1	1	1	0	1	3
4696	18 224 03 003	7.946446	1	1	1	0	1	3
4729	18 256 05 056	2.381137	1	1	1	0	1	3
4761	18 257 01 004	7.924639	1	1	1	0	1	3
4811	18 141 16 001	0.177033	1	1	1	0	1	3
5005	18 141 07 003	1.847774	1	1	1	0	1	3

Source: CNT, Bleakly

7.5.3 Assessment of Freight Potential of Catalyst Sites

Trends in the fuel retail industry are shifting towards alternate fuels and increased interest in automation will likely see the adoption of these technologies by the freight industry in the coming years. TSCID 's active industrial sector is a natural consumer of these products. In the 2.25-mile market area around the TSCID, there are 18 gas stations and 4 alternate fuel stations (3 Ethanol and 1 CNG). The closest electric charging station is less than 4 miles from the center of the TSCID.

Figure 57: Locations of Fuel Facilities



Source: CNT, Bleakly, US Department of Energy

An important consideration when planning and siting future fueling stations is to minimize their proximity to residential land uses and minimize conflicts with pedestrians and bicyclists. Local governments can use zoning tools and incentive programs to attract industrial-adjacent facilities but balance the trade-offs between supporting industrial uses and promoting the livability goals.

7.5.4 Proximity of Underutilized Land

The map above depicts commercial buildings within 0.5 mile of the TSCID boundary that were identified in the technical screening process. Of the 48 parcels, 26 sites intersect or are within TSCID. The parcels outside the TSCID are scattered, and a majority are under 1 acre. Within the surrounding area, there are very few sites that would possess COD (Cargo-Oriented Development) assets (including proximity and

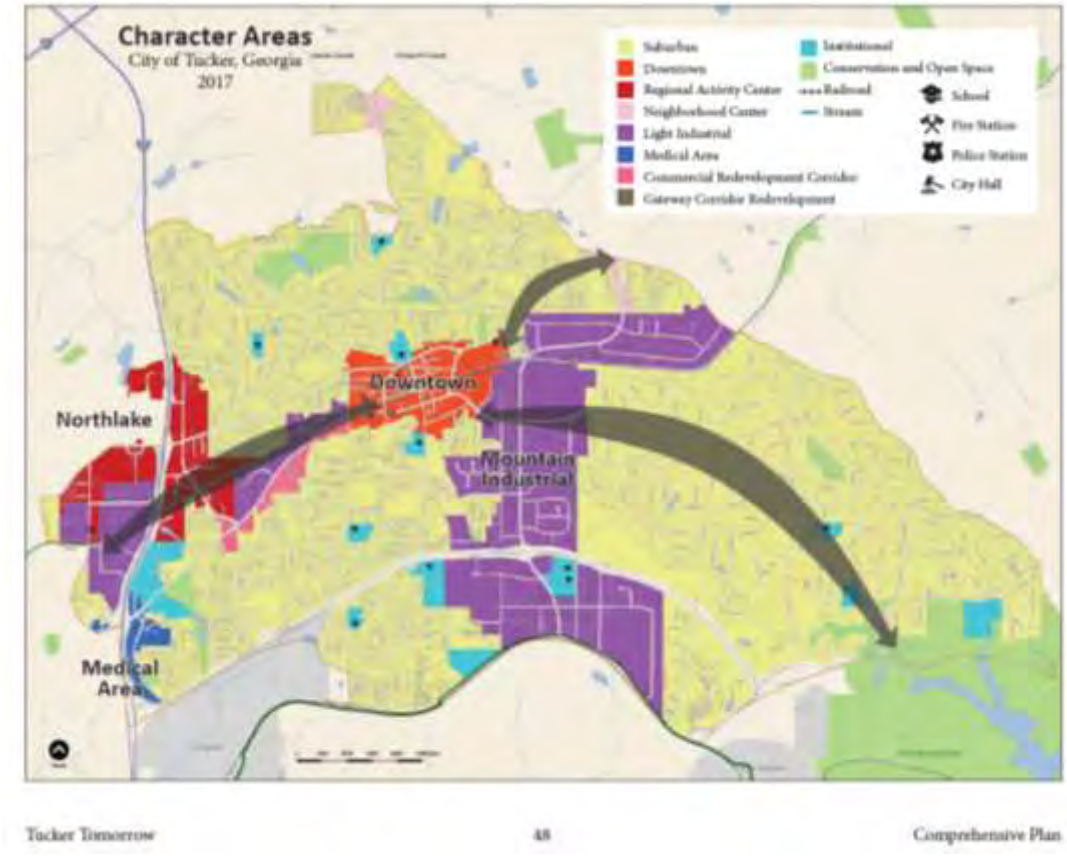
access to multiple modes of freight transportation, transit access for a large worker population, and proximity to other industrial businesses, as well as available acreage) increasing the competitiveness of the TSCID area.

7.5.5 Locations for Potential Growth

One of the five goals in Tucker's Comprehensive Plan is to bolster the city's economic base and to retain/attract businesses – both as viable job opportunities for its residents and to attract future residents. The Plan identifies the Mountain Industrial Boulevard corridor as an important tax revenue generator for the city and county, as well as notes the presence of obsolete industrial properties. The older building stock is threatened by the increasing need for higher-density residential and mixed-use developments as the region grows. Modernizing and upgrading the underutilized properties in the area will strengthen the area as a vibrant employment center.

The purple areas in the map below are identified for light industrial development. The TSCID area and parcels along Lawrenceville Highway are dedicated to low-intensity industrial developments that produce minimal nuisance for surrounding land uses. The limited availability of land in Tucker and TSCID creates the need for careful planning of existing industrial land or risk the conversion of these properties to other high-demand land uses such as commercial and mixed-used developments.

Figure 58: Tucker Tomorrow Character Areas



Source: Tucker Tomorrow Comprehensive Plan

7.5.6 Ranking/Scoring of Potential Catalyst/Opportunity Sites

Sites are analyzed by their potential to be developed as efficient cargo-oriented developments. COD is a development strategy that promotes efficient and sustainable freight movement and industrial development, within a framework that enables the resulting spaces to be sufficiently attractive for a mix of uses beyond just industrial. Like transit-oriented development (TOD), COD focuses on coordinating transportation and land use investment to maximize economic and social benefits, supporting industrial businesses in districts with access to multiple modes of freight transportation, strengthening access to nearby workers, deploying greener vehicles and cleaner technologies, and increasing the types of land uses that can be attracted to industry-heavy areas.

Twenty-six parcels were identified in the technical screening process within TSCID. The sites were filtered by a minimum acreage of 1 acre – resulting in 19 sites that were analyzed for location efficient COD. A range of criteria, defined by quantitative and publicly available data, was applied to each site in this limited universe, in order to rank the sites by probable feasibility and value from the standpoint of COD. These criteria fall into four categories:

- **Land Use**: The four criteria under this section consider the acreage that is available for the development, current zoning and existing industrial businesses and jobs in the surrounding area. So, these criteria provide a rough indication of the scale of economic development that might be directly linked to the placement of a COD at this site.
- **Freight Transportation Access**: The five specific criteria under this section address the basic business and transportation questions of how efficiently a site might be accessed by the existing freight network.
- **Worker Access**: The potential of industrial businesses to provide job opportunities for the region's lower income and less well-educated residents, it is critical that the development is accessible to these residents through public transportation. The six criteria listed here measure this accessibility from several perspectives: the density of public transportation services through which the site may be reached, the number of current industrial workers who can reach the site within 30 minutes, and the number of residents with a level of education appropriate for entry level industrial employment who can reach the site within 30 minutes.
- **Environment and Quality of Life**: The two criteria in this section examine environmental and quality of life issues, such as truck vehicle miles traveled through non-industrial uses and proximity of sites to schools and parks.

7.5.6.1 Industrial Land Use

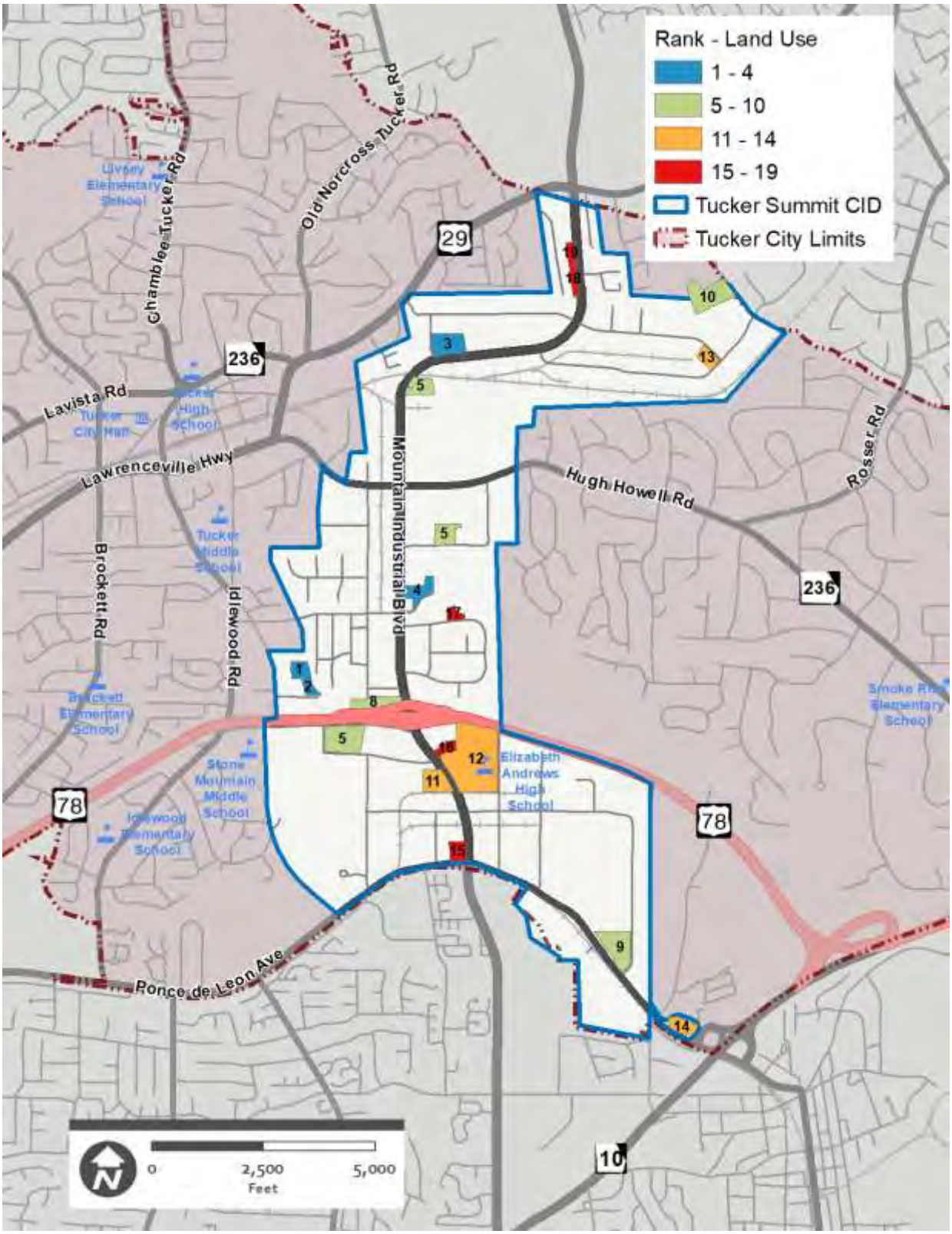
Land use considerations are integral to ensure the viability and success of an industrial district. Along with the availability of land, the presence of existing businesses in thriving industrial sectors – manufacturing, wholesale, warehousing and transportation creates a synergy, establishing an industrial ecology with distinctive economic, environmental, and social value. The sites within TSCID were assessed on the following criteria:

Factor	Criteria	Ranking Notes
A1	Adequate land available	All sites are at least 1 acre. Larger sites receive a higher score
A2	Number of Industrial businesses within 3-mile radius	Sites with more industrial businesses receive a higher score
A3	Number of Industrial jobs within 3-mile radius	Sites with more current employees in industrial jobs receive a higher score
A4	Current industrial zoning	Sites currently zoned industrial receive a higher score

Source: CNT

The industrial land use analysis identifies four sites that rank the highest. All these sites are currently zoned for industrial uses and are along Mountain Industrial Boulevard or Fellowship Road. Interestingly, the four sites are not the largest within the TSCID, scoring low to average on total land available, but score high for their proximity to existing industrial businesses and jobs.

Figure 59: Rank of Potential Sites for Land Use



Source: CNT

7.5.6.2 Freight Transportation Access

A strong freight transportation system that connects trucks and rail can be the foundation for vibrant industrial hubs and energy-efficient transportation. In the Atlanta region, most freight movement currently is via trucking, and this section analyzes proximity to critical freight infrastructure, namely proximity to highway ramps, truck routes, regional airport and intermodal terminals.

Factor	Criteria	Data Source & Calculation Method
B1	Proximity to highway ramp	Sites with greater proximity (based on network distance) receive a higher score
B2	Proximity to truck routes	Sites with greater proximity (based on network distance) receive a higher score
B3	Distance to nearest intermodal terminal	Sites with greater proximity (based on network distance) receive a higher score
B4	Proximity to Atlanta airport	Sites with greater proximity (based on network distance) receive a higher score
B5	Volume to Capacity Ratio - on adjacent road	Sites with higher V/C ratio, indicating higher levels of congestion receive a lower score

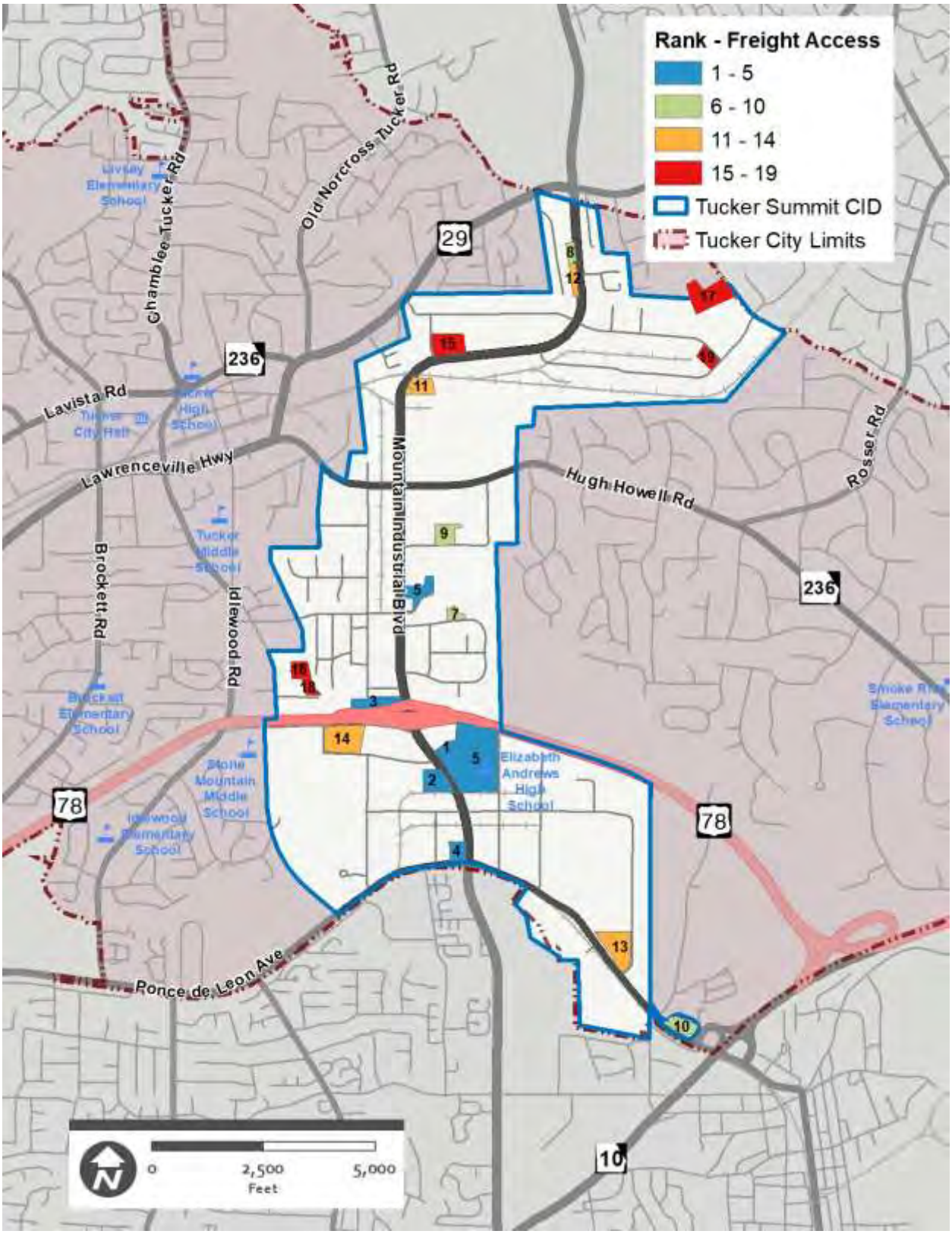
Source: CNT

All existing and proposed industrial sites have close access to nearby links on the freight network. The highest-ranking sites (shown in blue on Figure 60) have easy access to truck routes, are less than 0.7 miles from a highway ramp, and have shortest distances to Hartsfield-Jackson Atlanta International Airport and Norfolk Southern's Inman Yard intermodal terminal in Atlanta.

The lowest- ranking sites (in red) are further away from Mountain Industrial Boulevard (regional truck route) and from highway ramps, and their proximity to regional freight destinations are relatively higher.

The TSCID is well situated with access to the regional freight network, and while some sites rank higher than others, their relative standing does not take away from the viability of the entire district as an attractive area for industrial development.

Figure 60: Rank of Potential Sites for Freight Access



Source: CNT

7.5.6.3 Worker Access

Freight-dependent industries have fewer barriers to entry level jobs and require a lower educational level while paying above average wages. Out of the 11,000 jobs in the TSCID, 4,500 are in the manufacturing, wholesale trade, and transportation and warehousing. High quality public transportation can increase access to the region's less educated worker pool, reduce transportation congestion and auto ownership costs for workers. In DeKalb County alone, which is the county of residence of 28.5% of the TSCID's workers, there are over 28,000 residents currently employed in these freight-dependent sectors.

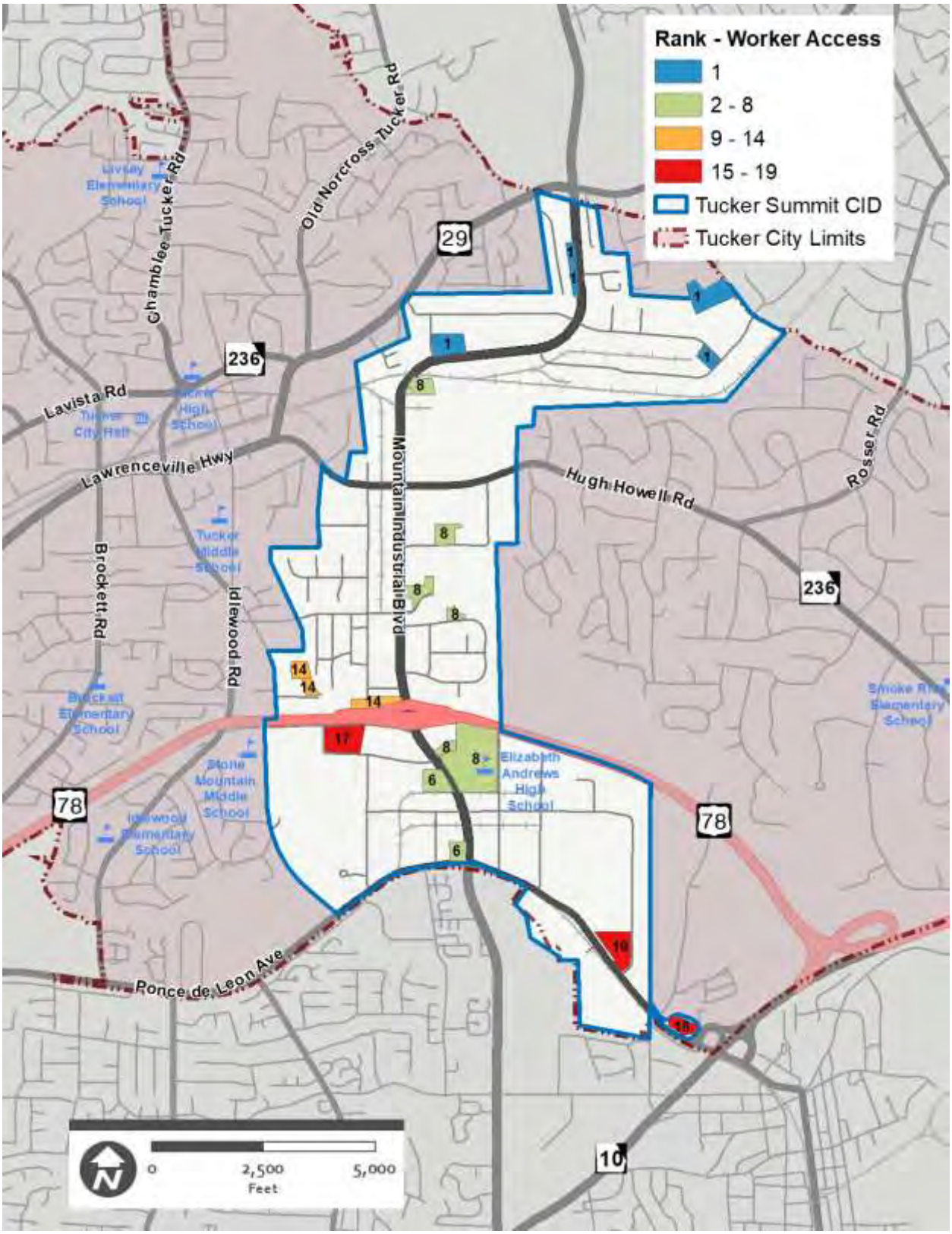
Access to public transportation can bolster the sustainability of industrial districts in times of rapid changes in the industrial sector. The metrics in this category assess the accessibility of current and proposed industrial districts to the current industrial workforce, as well as to potential workers living in low-income neighborhoods.

Factor	Criteria	Data Source & Calculation Method
C1	Number of people currently employed in industrial sector within a 30-minute transit trip	Sites with access to greater numbers of people employed in the industrial sector receive a higher score
C2	Number of people with high school or some college degree within a 30-minute transit trip	Sites with access to greater numbers of entry level workers receive a higher score
C3	Number of households in poverty within a 30-minute transit trip	Sites with access to greater numbers of households in poverty receive a higher score
C4	Transit stops within half mile	Sites with access to more transit stops receive a higher score
C5	Industrial jobs within half mile of transit	Sites with access to greater number of industrial jobs receive a higher score
C6	Number of transit trip per week	Sites with more trips available receive a higher score

Source: CNT

Five sites in the northern side of the TSCID are tied for first place. These sites have access to 7,500 workers currently employed in the industrial sector, access to 24,000 workers with some college degree or less, and all the jobs sites have transit available within a half mile. Sites southwest of the US 78 & Mountain Industrial Boulevard interchange and at the eastern end of the TSCID, along Ponce de Leon Avenue have the poorest access by transit. Improving public transportation services in these sections of the TSCID can enhance worker accessibility.

Figure 61: Rank of Potential Sites for Worker Access



Source: CNT

7.5.6.4 Environment and Quality of Life

COD contributes to regional sustainability because it establishes compact industrial districts where businesses can maximize use of efficient rail transportation and minimize less efficient truck travel, while employees can commute without driving alone. However, neighbors of compact industrial districts may still experience negative externalities of productive activity, and industrial users may experience additional complications to their operations. COD can mitigate these problems through the application of sustainable new design concepts, information systems, and equipment.

Factor	Criteria	Data Source & Calculation Method
D1	Miles through non-industrial land	Sites where freight network access is through non-industrial land receive a lower score
D2	Number of Community Services (Parks, Hospitals, Schools)	Sites with more adjacent community facilities receive a lower score

Source: CNT

Highest-ranking sites in the TSCID are along Mountain Industrial Boulevard. Their proximity to schools and parks is minimized by their lack of interaction with non-industrial land uses as they access highways to connect to regional destinations. The lowest-ranking sites score low due to their location further from truck routes and their increased interaction with non-industrial land uses, including residential uses north-west of the US 78/Mountain Industrial Boulevard interchange.

At the site level, placement of green infrastructure can serve as a buffer between neighborhoods and industrial activity and provide significant benefits to water quality and flood mitigation. Murphy Warehouses in the Twin Cities area mix different approaches to sustainability, ranging from native gardens to solar panels to LED lighting to white roofs that reflect the sun. The company — which operates 2.7 million square feet and manages 120,000 trucks annually — incorporates sustainability into many facets of its business. For example, by replacing the company's lawns with native prairie at one facility the company saved total of $947,000 on fertilizer, watering, and maintenance. Retention ponds at the company's Minneapolis headquarters eliminated a $68,000 city stormwater fee. A wide range of vehicle and logistics technologies, like new diesel engines, electric freight handling equipment and facilities, and improved routing technologies, can dramatically reduce the fumes, noise, safety, and lighting problems associated with prior-generation technologies. Municipalities, counties, or other jurisdictions can implement regulations, incentives, and invest in infrastructure to facilitate the adoption of these technologies and policies. In Chicago, the O'Hare Subregion Truck Routing and Infrastructure Plan provides a policy-level framework for an integrated truck route network and provides recommendations for future capital investment to modernize the routing network and address quality of life issues.

7.5.6.5 Overall Analysis Results

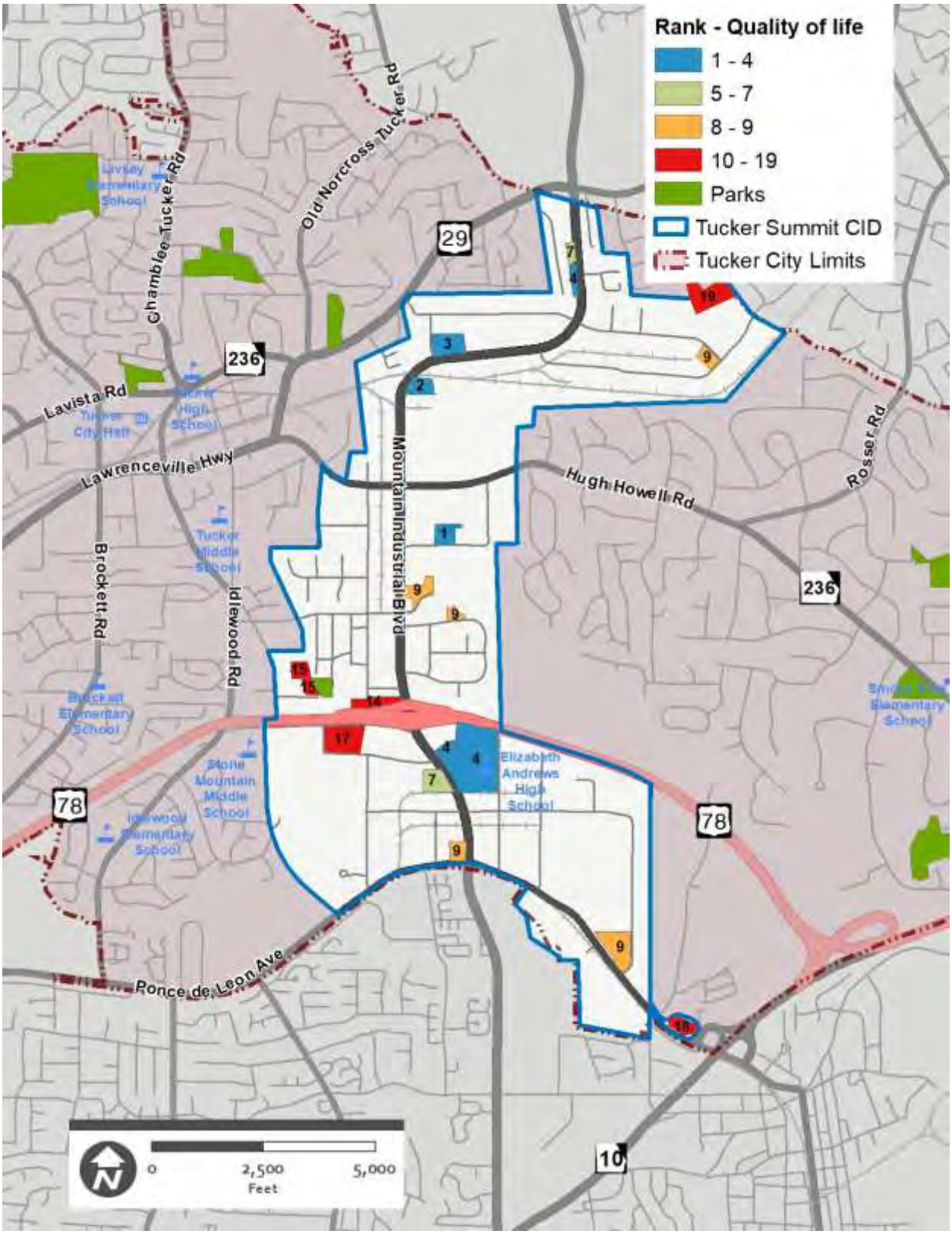
Overall rankings are shown in Figure 63. Highest-ranking sites can aid in prioritization of further investments and help identify factors that can improve the viability of lower-ranking sites. Many of

these factors can be changed through policy and investment decisions, making these areas more suitable for sustainable industrial development.

7.6 Summary of Key Findings

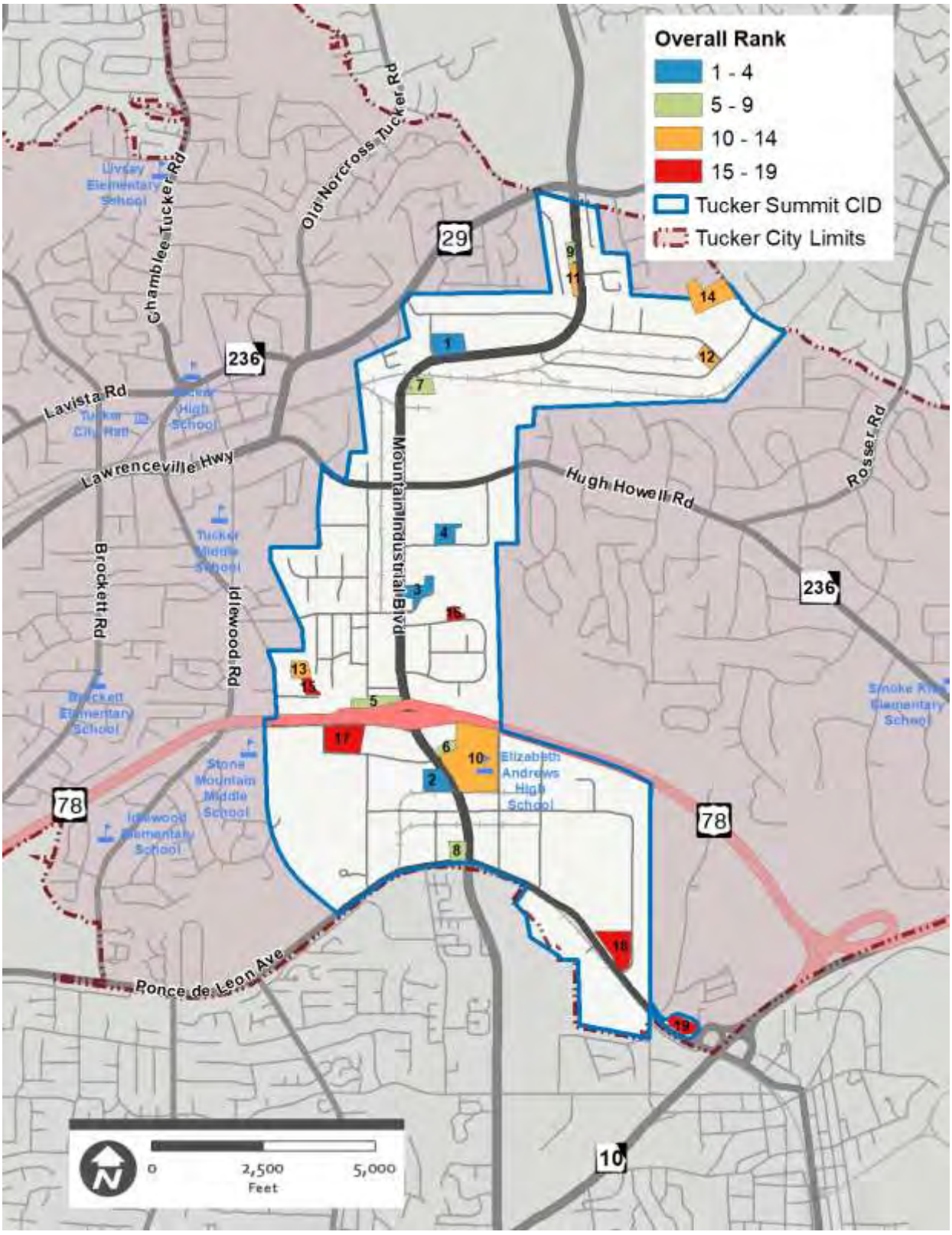
While the real estate and building inventory tend to be significantly older than in other regional industrial districts, the TSCID has remained remarkably competitive as a freight cluster, maintaining strong levels of employment, occupancy, and market rents. The technical screening of sites with propensity to change indicates that while some sites within the TSCID may be well positioned for updating, repositioning or re-tenanting, they can be rightfully regarded as opportunities to further the goal of strengthening the TSCID's economic competitiveness.

Figure 62: Rank of Potential Sites for Quality of Life



Source: CNT

Figure 63: Overall Rank of Potential Catalyst Sites



Source: CNT

8 Major Findings

The following section represents the major findings from this report as they relate to freight mobility and industrial development. For ease of review, these findings have been organized by the subject matter presented here in this report.

- Roadway Network Characteristics
- Land Use and Development
- Multimodal Needs

8.1 Preliminary Roadway Needs

- Based on the total daily volume, the worst congestion within the TSCID is observed along Mountain Industrial Boulevard. Between Hugh Howell Road and US 78, the corridor experiences LOS F. Furthermore, Mountain Industrial Boulevard is projected to carry 39,800 to 67,100 vehicles per day by 2040, with the highest projected volumes between the junction with US 78 and Hammermill Road. The greatest growth in traffic is projected north of South Royal Atlanta Drive, where traffic is projected to grow by 29 to 31%. Between E. Ponce de Leon Avenue and Hugh Howell Road (SR 236), traffic is projected to grow by 23 to 25%. This highlights the need for effective interim operations improvements as well as long-term capacity improvements along Mountain Industrial Boulevard.
- Mountain Industrial Boulevard and US 78 have been designated as regional truck routes by ARC and are the only Class A truck routes in TSCID as designated by GDOT. As such, these two corridors currently carry the highest traffic volume and highest truck volume within and adjacent to TSCID. Mountain Industrial Boulevard carries 29,500 to 40,300 AADT, and US 78 carries 92,200 to 109,000 AADT. Echoing this pattern, truck volume in the study area is also projected to grow substantially by 2040. Along Mountain Industrial Boulevard, truck volume is projected to grow by 27 to 40%, with the highest percentage growth in the vicinity of S. Royal Atlanta Drive and Hugh Howell Road. The highest truck volume is projected between Hammermill Road (south) and US 78 (Stone Mountain Freeway), where Mountain Industrial Boulevard is projected to carry over 13,000 trucks per day. Adjacent arterials, including Hugh Howell Road (SR 236), E. Ponce de Leon Avenue, and Lawrenceville Highway (US 29/SR 8), are projected to experience an increase of up to 44% in traffic volume. This highlights the need for the TSCID to work with its partners to preserve freight mobility along these corridors through innovative design and implementation of ITS strategies to efficiently move trucks throughout the TSCID. This level of truck traffic also heightens the need for roadway pavement and other maintenance in the area.
- Of the 178 commercial crashes in TSCID from 2014 to 2018, 96 crashes, or 54% of all commercial crashes, occurred along Mountain Industrial Boulevard.[67] The most prevalent crash type was angle crashes (36%), which may be attributed to sight distance issues, intersection geometry, or the need for signal control at unsignalized intersections. The next most prevalent crash type was rear end crashes (32%), which typically occur in congested traffic conditions. A high

[67] Includes commercial crashes within 50 feet of the corridor, including intersections

concentration of commercial vehicle crashes along Mountain Industrial Boulevard between Hugh Howell Road and East Ponce DeLeon Avenue indicates a need for access management strategies and safety improvements.

8.2 Land Use and Development Needs and Opportunities

- The most relevant DRI is from July 2018 and is referred to as Project Rocket (DRI 2807). It is on a 92-acre site located mostly in unincorporated Gwinnett County along West Park Place Boulevard in the Stone Mountain area. The project proposal consists of a 2,560,000 SF, four-story distribution facility with associated truck courts/drives and 1,800 employee parking spaces. Two driveways on West Park Place Boulevard and one on Bermuda Road are proposed to provide access to the site. The buildout year is 2020. The ARC review found that the site is in proximity to other light industrial and commercial facilities. The site will eventually house an Amazon fulfillment center
- Industrial land in TSCID is closely aligned with freight infrastructure, particularly trucking. 56% of the TSCID's industrial parcels are within one-mile of the US-78 on ramp; 68% within half-mile of the truck route (Mountain Industrial Boulevard) and 96% within a half-mile of railroad tracks.
- Approximately six percent of TSCID's industrial parcels can be classified as re-developable. Much of the TSCID's land has been under intensive development, and virtually all its acreage has been developed for industrial, commercial, residential or institutional use or preserved in designated natural areas.
- Environmental justice issues related to freight transportation and land use are minimal. Residential, recreational and institutional land uses make up only 13% of the TSCID. The future land use envisions limited amount of residential uses, especially west of Tucker Industrial Road and northern end of the TSCID. Freight--generated pollution can be significantly mitigated by investments in currently available and emerging freight technologies.
- Access to industrial jobs via public transit in the northern TSCID is highest. In a 30-minute transit trip, on average, 7,500 workers currently employed in industrial jobs can reach the northern part of the TSCID, compared to 5,000 industrial workers, on average, in the southern part. Improving access to the TSCID by transit can widen the labor pool and attract more workers suitable for entry-level positions for the industrial businesses
- Highest-ranking sites can aid in prioritization of further investments and help identify factors that can improve the viability of lower-ranking sites. Many of these factors can be changed through policy and investment decisions, making these districts more suitable for sustainable industrial development. The most attractive redevelopment/catalyst sites are located in the central portion of the TSCID due to their surrounding land uses, truck traffic, and access to transit.
- Pursuant to the ARC Regional Truck Parking Assessment Study, there are currently no truck parking facilities identified within the TSCID. The closest facility is located off of I-85 at 4086 Pleasantdale Road in Doraville and is a QT truck facility. Given the amount of industrial uses in the TSCID, the need for additional truck parking is an issue this study will address in developing potential recommendations.

8.3 Multimodal Needs

- In terms of sidewalks, Mountain Industrial Boulevard is sparsely covered, especially in areas north of Hugh Howell Road. There are many stretches where neither side of the road has sidewalk coverage or, at best, only one side of the road has a sidewalk. Hugh Howell Road also has little sidewalk coverage within the study area. 2019 City of Tucker sidewalk projects depicted in the study area include filling gaps between Tucker Industrial Boulevard and Mountain Industrial Boulevard and along Elmdale Drive to connect Idlewood Road to Mountain Industrial Boulevard and the freight facilities along that corridor. The Tucker Tomorrow STMP includes recommendations for sidewalk projects assigned to three tiers based on need and prioritization. Tier 1 projects are short-term, Tier 2 projects are mid-term, and Tier 3 are long-term projects. There are eight Tier 1 sidewalk projects and two Tier 3 sidewalk projects in the study area, located along Mountain Industrial Boulevard and Hugh Howell Road. These planned sidewalk projects will help improve multimodal connectivity to and within TSCID for the local workforce.
- From a workforce access and safety standpoint, many of the top destination MARTA stops are not served by bus stop amenities, sidewalks, and street lighting; however, this is slated to change through collaboration between TSCID and MARTA to install amenities at heavily utilized bus stops. Additionally, there are programmed sidewalk projects stemming from the Tucker Tomorrow STMP. Finally, median lighting along Mountain Industrial Boulevard will make the corridor safer and appealing to pedestrians who utilize transit, especially in the Royal Atlanta Industrial Park.
- TSCID is in the early stages of considering a potential Bus Rapid Transit (BRT) stop at the US 78/Mountain Industrial Boulevard interchange. This stop will help facilitate better transit access to TSCID for workers who live throughout the Atlanta region.